



FRIDAY, DECEMBER 27, 1878.

"Mud Digger" Locomotive.

An engraving of an old locomotive was published in the *Gazette* of Aug. 2 of this year, which we erroneously named the "Mud Digger" engine, as appears from the following extract from a letter from one of our correspondents, who says:

"I notice in the number of the *Gazette* of Aug. 2, an error in the nomenclature of the Winans engine you illustrate. It is correctly stated to be the second of the series, but was known as the 'Coal Crab' and not the 'Mud Digger.' The latter came third in the list, and has a horizontal boiler and eight connected driving wheels, worked by spur gearing in the same manner as the 'Coal Crabs.'

"I send you a photograph* of 'Mud Digger' which was made by Mr. R. K. McMurray, now of the Hartford Steam

ing axle by rigid bars, so as to always keep the axle (on which the pinion was keyed) at the proper distance from the spur shaft. The 'Grasshoppers' and 'Coal Crabs' had given trouble, from the fact that the spur shaft and pinion shaft were fixed rigidly, while the driving axles were free to move up and down in the pedestals.

S. J. HAYES."

This description of these engines is given because it forms a portion of the history of locomotive engines in this country which has thus far remained unwritten.

The "Camel" engines, which were the class built by Winans next after that which is illustrated herewith, also varied somewhat in design. We are in hopes of getting drawings or photographs of these which will complete the history of the growth or development of the locomotive under Winans' jurisdiction on the Baltimore & Ohio Railroad. This development was entirely distinct and separate from that in other parts of the country, and was quite original with him and his associates.

The Reagan Bill.

The bill known by this name, which is House Bill No. 3,547, "To regulate inter-state commerce and to prohibit un-

tinuous from the place of shipment to the place of destination, whether carried on one or several railroads. And it shall be unlawful for any person or persons carrying property, as aforesaid, to enter into any contract, agreement or combination, for the pooling of freights, or to pool the freights, of different and competing railroads by dividing between them the aggregate or net proceeds of the earnings of such railroads, or any portion of them.

SEC. 4. That it shall be unlawful for any person or persons engaged in the transportation of property, as provided in the first section of this act, to charge or receive any greater compensation per car-load of similar property for carrying, receiving, storing, forwarding, or handling the same for a shorter than for a longer distance in one continuous carriage.

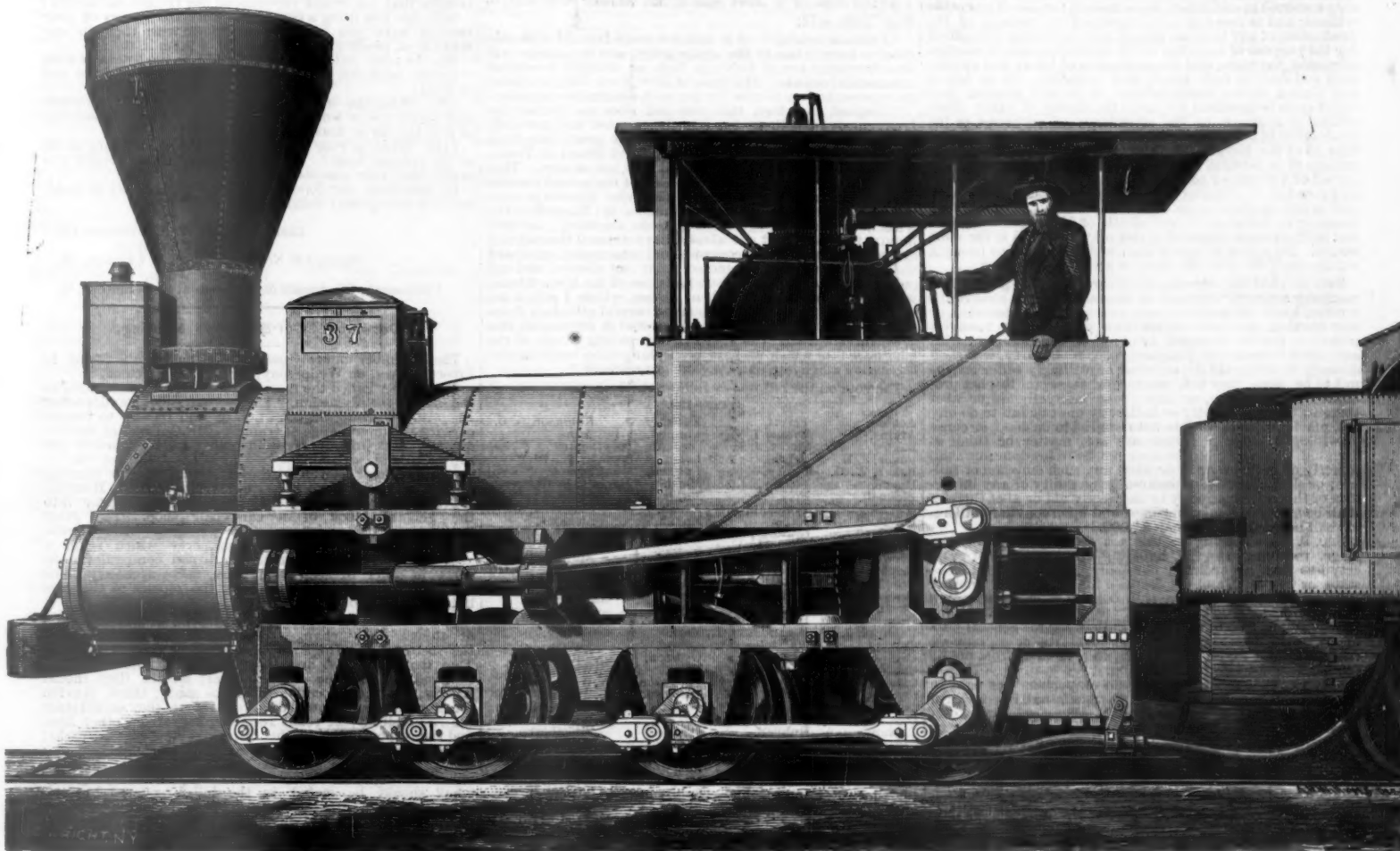
SEC. 5. That all persons engaged in carrying property, as provided in the first section of this act, shall adopt and keep posted up schedules, which shall plainly state:

First, the different kinds and classes of property to be carried.

Second, the different places between which such property shall be carried.

Third, the rates of freight and prices of carriage between such places, and for all services connected with the receiving, delivery, loading, unloading, storing or handling the same.

Such schedules may be changed from time to time, as herein-after provided. Copies of such schedules shall be printed in plain, large type, at least the size of ordinary pica, and shall

**"MUD DIGGER" LOCOMOTIVE:**

Built by Ross Winans for the Baltimore & Ohio Railroad in 1844.

Boiler Insurance Company, in 1864 or 1865 from the old 'Cumberland,' No. 87, Baltimore & Ohio Railroad. The last I saw of the engine she was regulating in Cumberland yard, but is now cut up, as are, I believe, all of them, some of their cylinders being still in use on stationary engines at Mt. Clare. The cylinders are 17 x 24 in. and the wheels 83 in. diameter. Weight I do not know. They were heavy engines for their time, and earned their title by the manner in which they shook up the light superstructure of the Baltimore & Ohio Railroad. The gearing is back of fire-box similar to the 'Coal Crab' engine illustrated heretofore. The 'Camel' engines were the next series of engines built by Winans, on which the spur-gearing was dispensed with and the fire-box was enlarged.

J. SNOWDEN BELL."

Mr. S. J. Hayes, who was for many years connected with the Baltimore & Ohio Railroad, and to whom the above statements were referred, writes:

"As I understand your correspondent, he is right as to the names of the several classes of engines. The first lot of engines built by Winans for the Baltimore & Ohio Railroad as represented by the 'Arabian,' 'Washington,' etc., had upright boilers and cylinders, and had working beams; they were called 'Grasshoppers.' The second lot, illustrated in the *Gazette* of Aug. 2, was represented by the 'McKim,' 'Maneppa,' etc., and had upright boilers and horizontal cylinders; they were known as 'Coal Crabs.' The third lot was represented by the 'Hercules,' 'Gladiator,' etc.; had horizontal boilers and cylinders and eight driving wheels connected. These were known as 'Mud Diggers.' The first of these engines (the Hercules) came on the road in October, 1844. The spur shaft ran across the back of the boiler, and was connected with the boxes of the back driv-

* The engraving herewith was made from this photograph.

just discrimination by common carriers," which passed the House of Representatives Dec. 12 by a vote of 139 to 104, 48 not voting, is given in full below:

Be it enacted, etc.

SEC. 1. That it shall be unlawful for any person or persons, engaged alone or associated with others in the transportation of property by railroad from one state or territory to or through one or more other states or territories of the United States, or to or from any foreign country, directly or indirectly to charge or to receive from any person or persons any greater or less rate or amount of freight, compensation or reward than is charged to or received from any other person or persons for like and contemporaneous service, in the carrying, receiving, delivering, storing or handling of the same. And all persons, engaged as aforesaid, shall furnish, without discrimination, the same facilities for the carriage, receiving, delivery, storage and handling of all property of like character carried by him or them, and shall perform with equal expedition the same kind of services connected with the contemporaneous transportation thereof as aforesaid. No break, stoppage or interruption, nor any contract, agreement or understanding, shall be made to prevent the carriage of any property from being and being treated as one continuous carriage, in the meaning of this act, from the place of shipment to the place of destination, unless such stoppage, interruption, contract, arrangement or understanding was made in good faith for some practical and necessary purpose, without any intent to avoid or interrupt such continuous carriage, or to evade any of the provisions of this act.

SEC. 2. That it shall be unlawful for any person or persons engaged in the transportation of property, as aforesaid, directly or indirectly to allow any rebate, drawback or other advantage, in any form, upon shipments made or services rendered, as aforesaid, by him or them.

SEC. 3. That it shall be unlawful for any person or persons engaged in the carriage, receiving, storage or handling of property, as mentioned in the first section of this act, to enter into any combination, contract or agreement, by changes of schedule, carriage in different cars, breaking car-loads into less than car-loads, or by any other means, with intent to prevent the carriage of such property from being con-

be kept plainly posted for public inspection in at least two places in every depot where freights are received or delivered; and no such schedule shall be changed in any particular except by the substitution of another schedule containing the specifications above required, which substitute schedule shall plainly state the time when it shall go into effect, and copies of which, printed as aforesaid, shall be posted as above provided, at least five days before the same shall go into effect; and the same shall remain in force until another schedule shall, as aforesaid, be substituted. And it shall be unlawful for any person or persons engaged in carrying property on railroads as aforesaid, after thirty days after the passage of this act, to charge or receive more or less compensation for the carriage, receiving, delivery, loading, unloading, handling or storing of any of the property contemplated by the first section of this act than shall be specified in such schedule as may at the time be in force.

SEC. 6. That each and all of the provisions of this act shall apply to all property, and the receiving, delivery, loading, unloading, handling, storing or carriage of the same, on one actually or substantially continuous carriage, or as part of such continuous carriage, as provided for in the first section of this act, and the compensation therefor, whether such property be carried wholly on one railroad or partly on several railroads, and whether such services are performed or compensation paid or received by or to one person alone or in connection with another or other persons.

SEC. 7. That each and every act, matter or thing in this act declared to be unlawful is hereby prohibited; and in case any person or persons, as defined in this act, engaged as aforesaid, shall do, suffer or permit to be done, any act, matter or thing in this act prohibited or forbidden, or shall omit to do any act, matter or thing in this act required to be done, or shall be guilty of any violation of the provisions of this act, such person or persons shall forfeit and pay to the person or persons who may sustain damage thereby a sum equal to three times the amount of the damages so sustained, to be recovered by the person or persons so damaged by suit in any district or circuit court of the United States, where the person or persons causing such damage can be found, or may have an agent, office or place of business; and the person or persons so offending shall for each offense forfeit and pay a penalty of not less than \$1,000, to be re-

covered by the United States, by action in any circuit or district court aforesaid, one-half of such penalty or penalties, when collected, to be paid to the informer. Any action to be brought as aforesaid to recover any such penalty or damages may be considered, and if so brought shall be regarded, as a subject of equity jurisdiction, and discovery and affirmative relief may be sought and obtained therein. In any such action so brought as a case of equitable cognizance, preliminary or final injunctions may, without allegation or proof of damage to any plaintiff or complainant, be granted upon proper application, restraining, forbidding and prohibiting the commission or continuance of any acts, matters or things, within the terms or purview of this act, prohibited or forbidden. In any action aforesaid, and upon any application for any injunction above provided for, any director, officer, receiver or trustee of any corporation or company aforesaid, or any receiver, trustee or person aforesaid, or any agent of any such corporation or company, receiver, trustee or person aforesaid, or of any of them alone or with any other person or persons, party or parties, may and shall be compelled to attend, appear and testify and give evidence, and no claim that any such testimony or evidence might or might tend to criminate the person testifying or giving evidence shall be of any avail, but such evidence or testimony shall not be used as against such person on the trial of any indictment against him. The attendance and appearance of any of the persons who as aforesaid may be compelled to appear or testify, and the giving of the testimony or evidence by the same, respectively, and the production of books and papers thereby, may and shall be compelled, the same as in the case of any other witness; and in case any such deposition or evidence, or the production of any books or papers, may be desired or required for the purpose of applying for or sustaining any injunction aforesaid, the same, and the production of books and papers, may and shall be had, taken and compelled, by or before any United States commissioner, or in any manner provided or to be provided for, as to the taking of other depositions or evidence, or the attendance of witnesses, or the production of other books or papers, in or by chapter 17 of title 13 of the Revised Statutes of the United States. In actions to be brought as aforesaid, damages sustained in the period of a month or part of a month may be regarded as and counted or declared upon, or complained of generally, and as one separate cause of action, and so, whether such damages be sustained in one month or in different months; and such separate causes of action may be joined in the same action. No action aforesaid shall be sustained unless brought within one year after the cause of action shall accrue.

SEC. 8. That any director or officer of any corporation or company acting or engaged as aforesaid, or any receiver or trustee, lessee or person acting or engaged as aforesaid, or any agent of any such corporation or company, receiver, trustee or person aforesaid, or of one of them alone, or with any other corporation, company, person or party, who shall directly or indirectly do, or cause or willingly suffer or permit to be done, any act, matter or thing in this act prohibited or forbidden, or directly or indirectly aid or abet therein; or shall directly or indirectly omit or fail to do any act, matter or thing in this act required to be done, or cause or willingly suffer or permit any act, matter or thing so directed or required to be done not to be so done; or shall directly or indirectly aid or abet any such omission or failure; or shall directly or indirectly be guilty of any infraction of this act, or directly or indirectly aid or abet therein, shall be guilty of a misdemeanor, and upon conviction thereof shall be fined not less than \$1,000.

SEC. 9. That nothing in this act shall apply to the carriage, receiving, storage, handling or forwarding of property less than an ordinary car-load, or wholly within one state or territory, and not destined for carriage in another state or territory, or going to or coming from some foreign country, or to property carried for the United States at lower rates of freight and charges than for the general public, or to the transportation of articles free or at reduced rates of freight for charitable purposes, or to or from public fairs and expositions for exhibition.

SEC. 10. That the words "person or persons" as used in this act, except where otherwise provided, shall be construed and held to mean person or persons, officer or officers, corporation or corporations, company or companies, receiver or receivers, trustee or trustees, lessee or lessees, agent or agents, or other person or persons acting or engaged in any of the matters and things mentioned in this act.

In presenting this bill and in answer to questions from members Mr. Reagan gave the following (among other) explanations of purport:

"No part of the bill prescribes rates of freight to any company, whether they be high or low; no part of the bill requires any comparison of rates of freight between competing companies or any two companies, whether competing or not, so that each stands as free and independent as it is today, if the bill should become a law, to change its own rates of freight, make them high or low as its interest or competition may induce, without interference by this law, being limited only by the requirement that freight shall be equal to all persons, that there shall be no drawbacks, and that like facilities shall be extended to all business.

"There is no rate per mile required to be changed. The only limitation is that a car-load of freight going 50 miles shall not be required to pay more in the gross than a car-load of freight carried 100 miles.

"One great object of the bill is that it shall aid in preventing those railroad wars, which have hitherto been so disastrous to stockholders and so injurious to the country by the fluctuations in the prices of transportation. The object is to prevent pooling, to prevent discrimination between shippers and between places, to prevent rebates, and to compel the railroads to pursue their business in an honest and legitimate way. * * The object of the bill is to prevent railroads from compelling one part of the American people to pay for the transportation of freight belonging to another part further than the line of discrimination which we allow them, charging as much, and not more, for a short distance as for a long distance. If we can get this bill passed into a law, it will not only be an instrument of justice toward the people of the country, but, in my own judgment, as also in the judgment of some very able and well-informed men in relation to railroad matters, it will benefit the roads themselves by preventing what we call railroad wars."

In answer to the question: "If railroad companies cannot charge any more at non-competing points on their line than they charge at competing points, does not that prevent competition?"

Mr. Reagan said: "If railroad companies undertake to carry through freights from one centre of trade to another centre of trade at less than compensating rates and then charge the way freights with the loss on the carriage of the through freight, we mean to defeat this; and if this is what he means by preventing competition, justice and right demand that to this extent it should be prevented. We do not mean by this bill to recognize the right to impose unjust and unequal burdens upon any one, whether at trade centres or at way stations. We mean, so far as the bill will enable us to do it, to compel those who ship upon railroads to pay their own freight at such just and reasonable rates as the interests

of commerce and the interests of the road may justify and require."

In reply to the question whether under the fourth section it would not be impossible for a man to contract for the carriage of one hundred car-loads from Chicago to New York at less than the company would take one car-load from Michigan City.

Mr. Reagan said: "I think it has exactly that effect—that one monopoly shall not help the other to oppress the individual, but that a train of one hundred cars belonging to one hundred men shall be entitled to be carried at the same price as a train of one hundred cars belonging to one man."

"In the ninth section it is provided that nothing in this act shall apply to the carriage, receiving, storage, handling or forwarding of property less than an ordinary car-load."

"When we create that unit we mean that unit shall be one of the instruments to secure justice alike between all shippers; we mean that one hundred men having one hundred separate car-loads put into the same train shall have their produce carried for the same price as one man could have one hundred car-loads carried."

Strong opposition to the bill came from Mr. Townshend, of Illinois, Mr. Phillips, of Kansas, and Mr. Cannon, of Illinois, who were in favor of most of its provisions, because of the prohibition of a higher charge for a longer than for a shorter haul.

At the close of a short speech, Mr. Abram S. Hewitt, of New York, said:

"I cannot conceive of a measure more fraught with mischief to every class in the community, and its passage will be a crowning act of folly—in fact, an attempt to commit commercial suicide. The state of New York does not desire its representatives to vote for any such destructive measures."

"I repeat, therefore, that this bill does not contain the true remedy; but there is a remedy—a wiser and more efficient one—which was pointed out to the gentleman from Texas by the resolution of the New York Board of Trade, which he quoted in his speech at the last session. That resolution proposed that a commission of competent experts should be created by Congress to supervise interstate commerce. Just as a similar commission in Massachusetts, without power to change rates or to do anything else than inquire into and point out abuses, has reformed the railroad system of that state, so a congressional commission appointed to overlook interstate commerce, point out abuses, and call public attention at once to any violation of the laws of trade would very soon cure all these abuses, which I admit are very grievous and which do demand careful attention from Congress and from all who are interested in developing this great foreign trade which at length is pulling us out of the quagmire into which we have been plunged by bad financial legislation and by an extravagant government."

The vote on the bill was as follows:

YEAS—139.			
Ackles,	Errett,	Killinger,	Robinson, G. D.
Atkins,	Evans, I. N.	Kimmel,	Sapp,
Bagley,	Evans, J. L.	Lapham,	Scales,
Baker, J. H.	Felton,	Ligon,	Schleicher,
Baker, W. H.	Finley,	Luttrell,	Sexton,
Bayne,	Forney,	Maish,	Shallenberger,
Bicknell,	Fort,	Majora,	Shelley,
Blount,	Freeman,	Marsh,	Singleton,
Bloom,	Fuller,	Martin,	Slomson,
Bouck,	Gardner,	McGowan,	Smalls,
Boyd,	Garfield,	McKenzie,	Sparks,
Brewer,	Giddings,	McKinley,	Springer,
Bright,	Glover,	Mills,	Stenger,
Brogden,	Gunter,	Mitchell,	Stone, J. C.
Browne,	Hamilton,	Mooney,	Thompson,
Buckner,	Hanna,	Mouros,	Tipton,
Cain,	Harmes,	Mudrow,	Townsend, R. W.
Caldwell, J. W.	Harris, John T.	Neal,	Turney,
Calkins,	Hartzell,	Oliver,	Vance,
Campbell,	Haskell,	Overton,	Van Vorhes,
Chalmers,	Hatcher,	Page,	Waddell,
Clark, Rush,	Hayes,	Patterson, G. W.	Ward,
Clymer,	Hewitt, G. W.	Patterson, T. M.	Watson,
Cobb,	Hooker,	White, Harry,	White, M. D.
Cox, Jacob D.	House,	Powers,	White, M. D.
Cravens,	Hubbell,	Price,	Whitthorne,
Crittenden,	Hunter,	Rainey,	Williams, A. S.
Cummings,	Hungerford,	Randolph,	Williams, A.
Cutler,	Itner,	Rea,	Williams, J. N.
Davis, Joseph J.	Jones, James T.	Reagan,	Willis,
Dibrell,	Jones, John S.	Reidy,	Wilson,
Dickey,	Jorgensen,	Rice, A. V.	Wren,
Dunnell,	Keller,	Riddle,	Wright,
Elam,	Kelley,	Robbins,	Yeates,
Ellis,	Kenna,	Robertson,	

NAYS—104.			
Aiken,	Clark, of Mo.	Henderson,	Potter,
Aldrich,	Coile,	Henry,	Reed,
Bacon,	Conger,	Hewitt, Ab'm S.	Rice, Wm. W.
Bailey,	Covert,	Hiscock,	Ryan,
Bailou,	Danford,	Humphrey,	Sampson,
Banning,	Davis, Horace	Huntin,	Saylor,
Beil,	Dean,	James,	Sinickson,
Blackburn,	Deering,	Jones, Frank	Smith, A. Herr.
Blair,	Denison,	Joyce,	Southard,
Bliss,	Durham,	Keightley,	Starrin,
Brentano,	Dwight,	Ketcham,	Steele,
Bridges,	Eames,	Knot,	Stewart,
Briggs,	Evans, John H.	Landers,	Stone, John W.
Bundy,	Franklin,	Lathrop,	Strait,
Burchard,	Frye,	Lindey,	Townsend, Amos
Burdick,	Gabell,	Mackey,	Townsend, M. I.
Cabell,	Goodie,	Manning,	Tucker,
Caldwell, W. P.	Hardenbergh,	Mayhew,	Turner,
Camp,	Harris, Benj. W.	McCook,	Walt,
Candler,	Harris, H. N.	Metcalfe,	Warne,
Cannon,	Harrison,	Morrison,	Warrington,
Caswell,	Hart,	Norcross,	Williams, James
Chittenden,	Hartbridge,	Phelps,	Williams, Rich'd
Clafin,	Hazelton,	Phillips,	Willis, Albert S.
Clark, Alvah A.	Hendee,	Pollard,	Willis, Benj. A.
Claire, of Ky.			Wood,

NOT VOTING—48.			
Banks,	Calhoun,	Knapp,	Robinson, M. S.
Beebe,	Davidson,	Lockwood,	Ross,
Benedict,	Douglas,	Loring,	Smith, Wm. E.
Bisbee,	Eickoff,	Lynde,	Stephens,
Bland,	Ellsworth,	McMahon,	Swann,
Brazg,	Ewing,	Morgan,	Thornburgh,
Butler,	Foster,	Muller,	Throckmorton,
Carlisle,	Gause,	O'Neill,	Veeder,
Collins,	Gibson,	Peddie,	Walker,
Cook,	Hale,	Pridmore,	Williams, C. G.
Cox, Samuel S.	Henkle,	Pugh,	Young,
Crapo,	Herbert,	Roberts,	

During the roll-call Mr. Bland said that he was paired with Mr. Banks. Otherwise he would have voted "ay."

Standard Draw-Bars and Draw Springs.

The committee of the Master Car-Builders' Association on this subject has issued the following circular, addressed "To master car-builders and others interested:"

GENTLEMEN: At the 18th annual convention of the Master Car-Builders' Association, held at Niagara Falls in June, 1878, the undersigned were appointed a committee to recommend a form and dimensions for a standard draw bar and

draw springs (and the best method of bringing about uniformity in their length and construction).

In order to collect such information as would be valuable in assisting your committee in making their report at the next annual meeting, it was thought best to issue this circular, containing questions relating to the subject.

We trust that you will give this subject your early attention, thereby aiding your committee in making a satisfactory report. Please give as extended answers to the questions as you may think necessary, not confining yourself to the spaces below:

1st. Is your company using cast or wrought-iron draw-bars, and which do you prefer? Please state your reasons.

2d. What is the length of your draw-bars, and what length would you recommend, measuring from end of head to the spring?

3d. What size of draw-bar are you using, and what size would you recommend, measuring where it rests upon outer yoke? Please give weight and full dimensions.

4th. Do you use a spindle in back end of your draw-bars running through the spring, or do you have spring pockets attached? Please state which you prefer and reasons therefor.

5th. Do you use wrought or cast-iron follower plates? Please give full size and thickness; also describe one that you would recommend as a standard for freight cars.

6th. Do you use dead woods over your draw-bars? If so, of what length and thickness, and how far ought the end of draw-bars to project beyond them?

7th. Have you used, or do you know of an automatic coupler that you would recommend for freight car service?

8th. Are you using a continuous draw-bar on any of your cars, or have you had any experience with them in any way? If so, please give your opinion of them in full.

9th. In your judgment what should be the length of links—inside—back side of pin-hole, being placed 4 in. from end of head?

10th. What size of coupling-pin would you recommend, and would you or would you not recommend the fastening of it to the car or draw-head?

11th. What, in your opinion, is the best draw-spring in use at the present time? Please state what size and length you prefer, and your reasons?

By answering the foregoing questions promptly as possible, you will greatly oblige your committee.

W. B. SNOW,

Illinois Central R. R., Chicago, Ill.

WM. CAMPBELL,

Chicago & Northwestern Ry., Chicago, Ill.

M. P. FORD,

Pittsburgh, Cincinnati & St. Louis Ry., Columbus, O.

December Car-Builders' Meeting.

The December monthly meeting was held at the rooms, in Liberty street, on Wednesday, Dec. 19, at 8 o'clock.

Mr. GAREY called the meeting to order, and announced as the subject for discussion, "The Revised Rules, as adopted at Niagara, governing the condition of and repairs to freight cars for the interchange of traffic." Mr. Garey said that to-day the trunk lines are receiving cars owned by nearly 400 railroads and car companies. One of the results of this interchange has been to transfer much of the running repairs of cars from home to foreign roads. Running repairs include all those little repairs which enter into the general labor of a car-repair shop. The great number of cars, which vary in all these little details, and the immense amount of property which is in a great measure dead stock that railroad companies must carry in order to keep up repairs, make necessary some rules which should govern not only the repairs to the cars but their condition when received.

The present rules are the outgrowth of this condition of things. Few changes in them could be made for the better, excepting to make them more explicit. They should specify, first, the condition of the cars when received on one line from another; second, they should specify how the inspection should be made; third, they should specify where inspectors disagree; fourth, they should state the responsibility of roads receiving cars from other lines and the responsibility of the owners of the cars or trucks; fifth, they should specify how special repairs should be made; sixth, they should provide for a settlement in cases where foreign cars are destroyed; seventh, specify what should be stated in the bill; rendered by one company against another for the labor or material furnished; eighth, give the prices which are to be charged for wheels, axles and other materials; ninth, specify how companies may become parties to the rules; tenth, the date when rules should take effect; eleventh, provide for calling a meeting to revise the rules.

He would also change the reading and sense of rule No. 9 as now in use, by inserting after the word "broken or worn out" under fair usage, and erase the word "and wheels worn out on same axle as wheel broken," which would then make the rule read "wheels and axles used to replace those broken or worn out under fair usage will be charged to the company owning the truck."

The word truck is used here advisedly, as there are lines known as "hoist car lines," or rather cars known as hoist cars, where the body is owned by one company and the truck by another, and this rule refers to the wheels alone; the word truck is used in place of the word car.

Wheels with flat spots exceeding 2 1/2 in. in length or diameter, or flanges with a flat vertical surface extending more than 1/2 in. from the tread of the wheel or less than one inch thick should be considered a worn-out wheel.

The condition of each wheel removed should be noted on the bill. It seems important that a person from the bill could know precisely the condition of the wheel removed. If this could be done, no company would hesitate to pay any bills rendered for wheels. It would also enable them to charge the manufacturers of the wheels with those which did not fulfill the guarantee when they are removed away from home.

Mr. GAREY said he had received one or two questions for discussion; one was, "What constitutes fair usage of wheels?" and inquired whether wheels were not used unfairly if the track was bad and the switches out of order.

Mr. LEIGHTON said if he were a wheel-maker he should regard it as "unfair usage" if the track on which his wheels were used did not receive ordinary repairs. It is certainly unfair usage to slide wheels.

Mr. FORNEY spoke of the loads now carried on cars as having something to do with the usage of wheels.

Mr. GAREY said that some years ago he advocated the building of cars to carry 15 tons. They were built, and the standard axle used under them, and they have been in the service now in their fourth year successfully. The effort to reduce the expenses of carrying freight has had a tendency to have cars loaded more heavily than was in some cases safe. The consequences are very apparent. The small axles which are now in use under many cars are bent, the journals are cut, and there are other causes of expense owing to the overloading of their rolling stock.

A Western railroad man recently complained that the Boston & Albany road did not use wheels fairly, owing to

the very heavy grades on its line, but it does not seem to be a valid complaint.

Another question which he had was, "In what manner should the condition of wheels removed be reported?"

Mr. HACKETT thought wheels were very often injured by the application of the brakes, thus heating the wheel.

Mr. LEIGHTON said the description of the wheel removed should always be explicit enough to make it clear why it failed.

Mr. OLMSTEAD thought that sharp flanges were generally caused by one wheel on an axle being larger than the other, and that when one of them is removed for that cause the difference in the diameters should be stated.

Mr. GAREY thought there were other causes for sharp flanges, such as the want of free motion of the truck after passing around curves. The nature of breakages should also be described clearly.

Mr. FORNEY said that in the blanks used by the Pennsylvania Railroad for its wheel reports there are half-a-dozen or more different headings, which give the different causes of failure. The use of such headings, he thought, would make the cause of failure sufficiently clear.

Mr. LENTZ said that the Lehigh Valley Company, of which he was a representative, understood rule No. 2, in the matter of charging for wheels, to charge only for broken wheels or a worn-out wheel on same axle, or for a loose wheel. Since the meeting at Niagara there has been a difference of opinion between the Lehigh Valley Railroad and another company on this point. His company, at Niagara, offered a resolution proposing an amendment to No. 2, providing that worn-out wheels should be charged by the transporter to the car-owner, and his company understood the amendment to have been adopted; and there is a bill now pending against the Lehigh Valley Railroad Company for a worn-out wheel on an axle on which there was not a broken wheel; and his object in coming there was to hear an expression of opinion with reference to that point. In reporting wheels they report only such as they render bills for. None of their wheels are guaranteed, and therefore they do not require other railroads to furnish any information, unless there is a broken wheel.

Mr. GAREY said that at Niagara he advocated an amendment covering exactly this ground. Since then the parties who had opposed it most had cordially fallen into the arrangement, and a number of roads have agreed among themselves to pay for wheels that are worn out under fair usage, specifying what constitutes fair usage.

The meeting then adjourned.

Regulation of Railroads under the New Constitution of California.

One of the proposed articles of the new Constitution of California (and we believe that the Convention has adopted it) relating to railroad corporations, and contemplating the establishment of a commission to supervise and regulate the railroads of the state, is as follows: "Three Railroad Commissioners shall be elected by the qualified voters of this state at the regular gubernatorial elections, and whose salary shall be fixed by law, and whose term of office shall be four years. They shall be qualified electors of this state, and shall not be interested in any railroad corporation, or other transportation company, as stockholder, creditor, agent, attorney or employee, and the act of a majority of said Commissioners shall be deemed the act of said Commission. Said Commissioners shall have the sole power, and it shall be their duty, to correct abuses by railroad corporations or other transportation companies; establish rates of charges for the transportation of passengers and freight by railroad or other transportation companies, and publish the same from time to time, with such changes as they may make; report to the Governor, annually, their proceedings, and such other facts as may be deemed important; hear and determine complaints against railroad or other transportation companies, affix penalties and enforce them through the medium of the courts, and perform such other duties as may be prescribed by law. Nothing in this section shall prevent individuals from maintaining actions against any of such companies. It shall be the duty of the Legislature to confer all such further powers on the Board of Railroad Commissioners as shall be necessary to enable them to perform the duties enjoined on them in the foregoing sections."

The San Francisco Call criticizes this article as follows: "The proposition is simply to place the entire management of the railroads of the state in the hands of three men. The Legislature is required to hand over its powers to regulate railroads to this Commission. We do not see that the Legislature retains any control over the Commission, or any power in any way to influence its actions. The section quoted declares that 'said Commission shall have the sole power, and it shall be their duty to correct abuses by railroad corporations or other transportation companies, establish rates of charges, etc., which devolves upon the commission by constitutional provision, above the power of the Legislature to rescind, the supreme control of railroad corporations.'"

"It is provided further on that 'it shall be the duty of the Legislature to confer all such other powers on the Board of Railroad Commissioners as shall be deemed necessary to enable them to perform the duties enjoined upon them in the foregoing section.' The Railroad Commission comes into life, therefore, without any action of the Legislature. It derives its powers from the same source as the Legislature, and in its sphere is supreme. There is no exercise of the power of legislation which a Legislature may perform on matters which come before it, which the Railroad Commission may not perform in regard to railroads. The Commissioners are to be elected by the people, and are to constitute a law-making power equal in its sphere to the Legislature."

"This Board, which takes so important a part of legislation from the Legislature, is to be composed of three men, of whom two shall be a majority, and the act of the majority shall be deemed the act of the Board. Practically, therefore, the railroads, both as to their owners and as to the state, are placed in the hands of two men. The only qualification required of a candidate for Commissioner is, that he shall be a qualified elector of the state, and not interested in any railroad corporation. He is not required to be a man even of business capacity. He is not required to know anything about railroads or their management. He is not required to have given proof of his ability to manage his own affairs successfully, before taking supreme control of so complex a business as conducting a railroad."

"A proposition to put a man on the Supreme Bench who had never studied or practiced law would hardly be more dangerous to the public interest or confusing to legal procedure, than to put a man in charge of the railroads of this state who has only an ordinary knowledge of the business. It is not by such propositions as this that the rights of the people to regulate railroads will be established in the minds of intelligent men. Railroad owners will point to this proposition as an illustration of their assertion that they are threatened with practical confiscation. A commission like that proposed could make the property of any railroad valueless as a source of revenue. Through ignorance it might blunder, as through venality it might oppress, to the point of confiscation."

State Regulation—A Southern Railroad President's Opinion.

The following is a part of a letter, dated Oct. 30, addressed by Mr. Wm. M. Wadley, President of the Central Railroad Company of Georgia, to Mr. Joseph E. Brown, President of the Southern Railway & Steamship Association, in view of the prospect of some railroad legislation at the current session of the Georgia Legislature:

In my opinion a meeting at this time, or at an earlier date, would have afforded a fitting opportunity for the members of the Association to have given some expression of their views as to the propriety of legislation for the control of railroad transportation. There can be, I think, no doubt that at the approaching session of our legislature some action will be taken in reference to this matter, and, in my judgment, it should not be opposed, but we should endeavor to have it of such a comprehensive and statesmanlike character as not to inflict damage upon any interest of the state, be that the interest of the railroads or of communities.

The constitution of our state provides that "the power and authority of regulating railroad freight and passenger tariffs, preventing unjust discriminations, and requiring reasonable and just rates of freight and passenger tariffs, are hereby conferred upon the general assembly, whose duty it shall be to pass laws, from time to time, to regulate freight and passenger tariffs, to prohibit unjust discriminations on the various railroads of this state, and to prohibit said roads from charging other than just and reasonable rates, and enforce the same by adequate penalties;" and again, that "no railroad company shall give or pay any rebate or bonus in the nature thereof, directly or indirectly, or do any act to mislead or deceive the public as to the real rates charged or received for freight or passage; and any such payment shall be illegal and void, and these prohibitions shall be enforced by suitable penalties."

The wisdom of this provision in the fundamental law of our state and of any action of our legislature that may be taken under it will, I presume, be viewed differently by different persons; but, in my own opinion, we have reached a period in the history of railroads when some controlling power is necessary, in order to prevent them from inflicting injury upon each other, or on the different communities served by them. Any law, however, for such control should not be in contravention of the chartered rights of the railroads to be affected.

The desirability of accomplishing this result will not, I presume, be questioned by any one; but how and by whom this problem should be solved is a very difficult question to decide. In my judgment, the railroads of the whole country bear the same relations to the body politic that the arteries do to the whole system, and like them should be governed by an authority equally as extensive, so that no one point should suffer at the expense of another. Such control, however, I am fully satisfied will not now, and probably never, be viewed with favor. This being the case, and at the same time standing, as we do, face to face with the problem to be solved, and the certainty that our Legislature, at its approaching session, will take some action to carry out the provision in our constitution relative to this matter, I think it behooves us to seek at least to act in harmony with them, in order, if possible, to avoid committing any gross mistake in dealing with this great interest, or, as it is now called, the "railroad problem." When we reflect that the state of Georgia is touched at many points in its borders by competing lines of water and rail transportation, it is not difficult to see that it will require great wisdom to so frame a law to regulate the rates for freight and passage on roads within the state without inflicting great injustice upon some parties interested, and this I am satisfied our law-making power would not seek to do.

Mr. Wadley then quotes with approval a passage from the book entitled "Railroads—their Origin and Problems," by Charles Francis Adams, Jr., which we have heretofore published, and the tenor of which (regarding the relations of the railroads to the state) is pretty well known to our readers.

The Chicago Railroad Association—Ticket Sales.

The committee which was recently appointed by the Chicago Railroad Association for the purpose of preparing an agreement which should be binding upon all the railroads centering at Chicago, has drawn up the following compact, which has been submitted to the general managers of the various roads for approval:

The several companies constituting the "Chicago Railroad Association," for the purpose of mutual protection against speculation in railway tickets, to the detriment of the general railway interest, as well as of the particular roads affected thereby, and to prevent ruinous competition, as well as to reduce expenses in conducting the passenger traffic in the city of Chicago, do hereby agree:

That this instrument, when signed by the representatives of the passenger department of the several companies parties hereto, and approved by the General Managers of such companies, shall have all the force of a covenant or obligation under seal. That from—no more than 150 pounds of baggage shall be carried free on each full passenger ticket, or pounds on each half-ticket; nor shall any amount in excess of the above-named number of pounds be carried for less than the full excess baggage tariff adopted by the Association, to be bona fide paid by the party for whom such baggage is carried, and retained by the party carrying the same, for the use and behalf thereof, without recourse. That all contracts for a greater amount of baggage than above stated shall terminate on the date first named: Provided that advance agents of show companies may be permitted to carry—pounds of show bills free.

That from—no passage ticket of any constituent company hereto shall be placed on sale in any but the regular ticket offices of the respective companies in the city of Chicago, and each company shall designate such offices as it will maintain on or before the—Provided, that should any company designate more offices than any other company, such company shall either be required to close the excess in number in such offices or the other companies may be allowed to open enough additional offices to equalize the number so designated as aforesaid. No one but regular salaried ticket agents shall be employed in such offices, and such agents shall not be permitted to farm out the business of selling tickets to any person or persons outside of such offices.

That the payment of commissions in the city of Chicago by any of the constituents of this compact, or anything equivalent thereto, by whatever name it shall be designated, or for any kind of service in the passenger line other than the regular salaried agents, is absolutely prohibited by these presents. It is also understood and agreed that this provision includes a prohibition of all fees or gratuities of whatever form to any outside men of any description, whether hotel porters, hack drivers, expressmen, or omnibus men, "curbstone men," or any class or individuals

whomsoever, other than regular salaried agents of the respective companies, and exclusively employed thereby and for actual service in the passenger department of the road so paying him or them. (This does not include payments made to Parmelee's Omnibus Line for transfer of passengers and baggage between the several depots in the city of Chicago, but does include any payment or gratuity to the employees of said line.)

That after the date first above named no free passes, free tickets, or any other form of free transportation shall be furnished any person or persons whomsoever, for any kind of service in the passenger department, or to influence travel in favor of the several lines parties hereto. (This provision has reference only to matters within the city of Chicago.) The regular tariff rates established by the Association shall not be deviated from by any party hereto, nor anything be done or furnished to any patron of the several parties hereto which shall be the equivalent of a reduction of rates in payment for tickets—charity cases, so specified on the face of ticket, or special rates previously agreed upon in writing between the chiefs of department of all the lines interested in the case, alone excepted.

This agreement being predicated upon the desire and fixed purpose of all parties thereto to reform all abuses existing in the conduct of passenger business in the city of Chicago, each one pledges an honest endeavor to perform all the stipulations herein, according to the spirit as well as letter thereof, and to refer all cases of alleged departure therefrom on the part of any of the constituents to the association for investigation and adjudication, and no one shall withdraw therefrom until all causes of complaint said party shall have, or claim to have, shall have been submitted to the Association and it shall have decided the same contrary to what said party shall deem justice, or shall neglect to hear and determine the same.

It is provided that all applications for reduced rates for any special occasion, in any wise affecting rates to or from Chicago and any points on the lines of the several roads, parties hereto shall be referred to the "Chicago Railroad Association," or a committee thereof, regularly appointed, and its decision thereon shall be final. Provided that in emergencies involving the carrying of parties to or from Chicago, non-competing points, either of the constituents hereto making any reduction from the tariff shall report the same to the Association at its next meeting, and in case of disapproval by the same, the act shall not be repeated.

In all cases where the railway connection of the roads parties hereto shall do any act contrary to the letter or spirit of this compact, to influence travel in its favor, in the city of Chicago, the Association and each of its constituents shall in good faith endeavor, by all legitimate means, to cause such party to desist therefrom and comply with the terms of this compact, and shall act in all cases for the joint and several interests of all the members of said Association as against all outside parties.

Rules of procedure in all cases which can arise under this compact shall be made by the Chicago Railroad Association, and published in connection therewith.

Any party to this compact violating any of its provisions shall, on conviction thereof before the Chicago Railroad Association, pay to said Association the sum of \$1,000 "liquidated damages," and in default thereof the same shall be sued for and collected of the delinquent party in an action at law; and it is provided that the party complainant who shall successfully establish his case shall receive therefor one-half of the fine herein provided, and the remainder shall inure to the benefit of the Association.

RAILROAD LAW.

Duty of Conductors.

In Sears against the Central Railroad & Banking Company the Georgia Supreme Court held as follows, reversing the judgment of the Circuit Court:

Where an emergency is relied upon as justifying a conductor in going out of his sphere, and taking upon himself the duty and hazards of a subordinate, and it is alleged that the emergency was occasioned by the train being behind time, it is incumbent upon the conductor or those claiming through him to make it clearly appear by evidence that the delay of the train was not caused by his fault or negligence.

Regulation of Railroad Fares in Ohio.

In the suit of William B. Moore against the Pittsburgh, Cincinnati & St. Louis Company, which was tried in the Court of Common Pleas of Union County, O., and subsequently appealed to the Supreme Court of the state, a decision has been rendered by the latter court affirming the decision of the Court of Common Pleas. The Court decides that special privileges conferred on a railroad company by a private charter, granted under the constitution of 1802, do not so inhere in the road constructed under such charter as necessarily to pass to any corporation which may have acquired, under subsequent legislation, the right to operate such road.

The act of April 25, 1873, amendatory of section 13 of the act of May 1, 1852, which prohibits any corporation operating a railroad in the state from demanding and receiving for the transportation of passengers more than 3 cents per mile for a distance of more than eight miles, gives the party aggrieved a right to recover from such corporation a forfeiture of not less than \$25 for each case of overcharge.

Injury to Employee—Negligence of Fellow Employee.

In Collam against the Ohio & Mississippi, the Indiana Supreme Court lately held:

1. A locomotive engineer and a section hand are fellow servants within the meaning of the rule that a railroad company is not liable to one of its servants for injuries sustained by him by or through the negligence of another of its servants, where both servants are engaged in the same undertaking.

2. It is, however, the duty of a railroad company to employ competent and reliable servants, and it must exercise reasonable care in their selection. If such company with notice or knowledge of the incompetency or carelessness of servants retains them in its service, it is liable to its other servants for injuries which result to them from the failure of the company to discharge its said duty. In an action by a section hand to recover for injuries which were alleged to be the "result of the conduct and action" of an engineer who, pursuant to a custom of the engineers on his road, abandoned his locomotive to his fireman at the place where such section hand was injured, through the incompetency and carelessness of which fireman the injury occurred, it should have been averred in the complaint that the engineer had knowledge or notice at the time that the fireman was incompetent to manage such locomotive. This incompetency cannot be inferred from the fact that he was merely a fireman. It must also be averred, in order to make the railroad company liable for such injury, that such company retained the engineer in the employ with notice of his incompetency, negligence or carelessness.

3. Where a complaint in such action charges negligence the facts constituting the negligence should be alleged. But a complaint which charges negligence in general terms is not bad on demurrer for want of facts.



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EDITORIAL ANNOUNCEMENTS.

PASSES.—All persons connected with this paper are forbidden to ask for passes under any circumstances, and we will be thankful to have any act of the kind reported to this office.

ADDRESSES.—Business letters should be addressed and drafts made payable to THE RAILROAD GAZETTE. Communications for the attention of the Editors should be addressed EDITOR RAILROAD GAZETTE.

ADVERTISEMENTS.—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns OUR OWN opinions, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

CONTRIBUTIONS.—Subscribers and others will materially assist us in making our news accurate and complete if they will send us early information of events which take place under their observation, such as changes in railroad officers, organizations and changes of companies, the letting, progress and completion of contracts for new works or important improvements of old ones, experiments in the construction of roads and machinery and in their management, particulars as to the business of railroads, and suggestions as to its improvement. Discussions of subjects pertaining to ALL DEPARTMENTS of railroad business by men practically acquainted with them are especially desired. Officers will oblige us by forwarding early copies of notices of meetings, elections, appointments, and especially annual reports, some notice of all of which will be published.

THE YEAR 1878.

We said at the close of 1877 that that year seemed likely to be the dividing point, marking the extreme of depression of a past season of business prostration and the beginning of a recovery which might be expected to lead, sooner or later, with greater or less rapidity, to a season of prosperity; and we set the date of that turning point about the 1st of August of that year, when the plentiful harvest began to have its effect. The year 1878 has confirmed that impression. The first half of 1877 remains the dulllest period of the dull times we have had since 1873. But if there has been some recovery from that worst of times, it must be confessed that it has not been very great except in certain directions—and it is not even certain that it would have been maintained until this time but for the good fortune which gave us harvests this year even more abundant than those of 1877, and the largest, doubtless, in nearly all the principal products of the soil, that this country ever has had.

Wheat, cattle, hogs, cotton—of all there is more to be marketed than ever before; of corn, fully as much. Not all parts of the country have prospered, it is true; but the failure of wheat in Minnesota and vicinity this year may be set against the failure in California the year before, and altogether there is no doubt that there was considerably more wheat raised in the country this year than ever before. Indeed, we have, every year since the panic, been making considerable progress in agricultural production, and recently this progress has been tremendous, and seems likely to continue at this rapid rate for a while at least. That is, the area under cultivation is likely to be added to very largely in 1879 at least; the amount produced, of course, will depend largely upon the character of the season. It may easily happen that with a larger area cultivated there may be smaller crops in 1879 than in 1878; but, on the average, hereafter we will have more grain and stock to market than we have had heretofore, and the effect of such agricultural progress on commerce and manufactures may confidently be expected. By this time, however, it begins to be suspected that there may be great growth

in farming industry with comparatively little stimulus to manufactures, or less than formerly would have been expected. Years ago, when this country was very largely supplied from abroad, American manufactures might increase ever so much more rapidly than agriculture without glutting the market; for the manufactures not only could apply their increased production to the increased demand, but also to the old demand, taking the place of goods formerly imported. But the moment the home supply has become equal to the home demand, the room for expansion becomes limited at once to the growth of that demand, in the absence of an export trade. Apparently many manufacturers have reached that position in America. They have developed a capacity exceeding the domestic consumption, and they cannot find a market for all the goods they can make.

The slowness of trade or manufactures to respond to the recent more rapid growth in farming, however, must be charged partly—probably this year very largely—to the low prices of farm products, which leave a very scanty return to the producer, and he purchases, of course, not in proportion to the number of bushels of wheat, of head of hogs and cattle, or of pounds of cotton that he sends to market, but in proportion to the number of dollars that they bring him. Grain has rarely been so low as now in the history of the country, and hogs bring about one-third of the price they commanded three years ago. The larger crops of the year 1878 will probably not bring so large a return in money as those of 1877: the farmers are poorer; they buy very little, though they sell so much; and the railroads that are burdened with grain and cattle and meats going east have not correspondingly large loads going west, and travel during 1878, according to the reports received so far, has been the lightest for a great many years.

But the great increase in freight traffic, which is the chief business of American railroads, made the year favorable to the railroads, and the indications are that their earnings, both gross and net, were considerably greater than in 1877. Expenses have not been greatly reduced. Prices of materials and wages have not changed much. When there was more work to do it generally cost more to do it. But also the downward course of rates seems to have been arrested. Very many companies show in their last reports higher average rates per ton per mile than in the previous year; all of which indicates that a time of greater stability than heretofore has been reached.

The great feature of railroad business of the year in 1877 was the frequent resort to combinations of railroad companies for the purpose of avoiding railroad wars and unprofitably low rates on traffic competed for. In that year railroad managers pretty generally were ready to confess that railroad business is so far exceptional in its nature that it cannot be properly conducted with unrestricted competition. They were not by any means confident, however, that anything yet proposed would prove a remedy for the great evil which they recognized, and which had made it impossible for many of them to earn anything like a fair return on the capital invested in their roads. But some of them agreed to contracts for dividing traffic or the earnings from it as an experiment, feeling sure that disaster would result if nothing were done, and therefore ready to try almost anything that offered the least prospect of success. The tone has changed during the year. Notwithstanding some disastrous failures, the conviction has gained ground that an apportionment can be made to work even with a complicated traffic, like that from the Northwest to the seaboard. The companies try and fail and try again. They seem not discouraged by failure or poor success. They apparently have the disposition to keep on trying till they succeed, believing that the obstacles that hitherto have prevented success can be surmounted in time. And the established associations, such as the Southern, the New York, the Southwestern, have probably been more effective in 1878 than ever before, though not all of them have had plain sailing by any means. And the year has added abundantly to the evidence that it is next to impossible to maintain through rates, except by some combination. Especial care had been taken in the fall of 1877 to preserve the winter business profitable. All agreed to maintain rates, and there was so large a traffic offering and prices of Western produce were such that it seemed easy to do a large business at remunerative rates. But the year opened with complaints of cutting rates at Chicago, and in a few weeks the railroads were carrying for about half the agreed rates. The winter business was spoiled, though it was by far the largest on record. And the trouble did not end with the winter. In spite of the hastily-organized east-bound pool that was to go into effect March 11, the struggle continued, and very little freight was carried east at remunerative

rates until about the middle of August, and for several weeks the rates were the lowest ever known, 12 and 14 cents per 100 lbs. having been accepted, it is said, for a very large amount of freight from Chicago to New York.

Rates generally have been low, even when strictly maintained, the condition of business, the prices of leading staples and the competition of the water routes preventing the making of even such rates as were had in the last three months of 1877, which gave the roads carrying through traffic between the Northwest and the East a more profitable business than they had had before probably since 1873. The low prices continuing, it will be impossible to carry this traffic the present winter at the rates agreed upon for last winter; but as probably five-sixths of last winter's business was carried at cut rates, it will not be difficult to make larger profits this winter.

The financial position of the roads has somewhat improved during the year, and many stocks and bonds bring a higher price in the market. Several Northwestern roads have been able to increase their dividends; there have been few new failures to pay interest on bonds, and none of an important company. Many reorganization schemes have been carried out, the most important being that of the Erie, but there are still a great many roads in the hands of receivers, and some of them seem likely to remain there for a long time to come.

Among the most notable changes in the control of railroads are the succession of the Vanderbilt interest to the control of the Michigan Central, and the lease of the Denver & Rio Grande by the Atchison, Topeka & Santa Fe.

There has been a reasonable amount of railroad construction. At this date we have accounts of the completion of 2,263 miles, which is about 150 miles more than we had news of at this time last year. The difference will not be considerable, however, and the chief change is in the field where new construction has been most active. Hitherto since 1873 the work has been to a great extent on new local lines in the East; this year it has been to a greater extent than for several years in the West, in thinly-settled districts which are beginning to fill up. Minnesota, which had built very little road before since 1873, has half-a-dozen new lines this year, two of which are of considerable length, while one is exceptionally important as giving an outlet to the whole Red River valley and vast fertile (but very cold) districts in British America. The most important construction of the year, however, is doubtless the extension of the Atchison, Topeka & Santa Fe, which already has trains in New Mexico, and is pushing on toward a connection with the Southern Pacific, which will give a second line across the continent. Another new line of more than local importance is the Pittsburgh & Lake Erie, which will give Pittsburgh a new connection with the West. Probably of more real importance than any of these are the twelve or thirteen miles of elevated railroads built in the city of New York and opened during the year. At least there are scarcely any other railroads in the world whose advantages are shared by so many people, something like 120,000 trips being made on them daily. One of these roads has many more trains than any other in the world, dispatching more than 500 daily in each direction, and for much of the day running them at intervals of 1½ minutes. The enormous addition to the comfort and convenience of living in New York caused by these roads only those who have had experience with the old modes of conveyance can fully appreciate.

The year ends quite favorably, with almost the certainty of a large traffic for a large part of the roads until after the next harvest, and with a good prospect of making much more out of it than was done last year. Rates are likely to remain low, however, and expenses are not likely to decrease by lower prices for materials or labor. The prospect is of greater stability than has been known recently. The country seems headed in the right direction, and most are satisfied with that, even if the progress made is very slow. The study of economy is resulting in the introduction of new methods, by which often savings may be made quite as important as those which were forced upon the railroads, as it were, by the fall in prices. The powerful engines hauling greater train loads and the increase of 30 to 40 per cent. in loads without increasing the weight of the cars are instances. The economies thus attained may continue long after prices have ceased to fall and when they have begun to rise. From this and greater regularity in rates much is to be hoped, and some fruits from them we shall be likely to see in 1879, which may easily be made to make better returns than 1878, even though the harvest should be but indifferent.

UNIFORMITY IN THE CONSTRUCTION OF ROLLING STOCK.

Among the dreams which sanguine master car-builders entertain is the one that at some future time a sort of millennial condition of things may be brought about, when the differences of opinion which now exist among them may be forgotten, and the present discord be succeeded by a general agreement concerning the construction of rolling stock. The lion, who believes in big axles, will then lie down with the lamb, whose faith in the utility of small journals is still unshaken. Whether, when this happy condition of things comes about, the lambs will have grown more like lions or the latter have become more sheepish, this is perhaps not the time to inquire. There can be no doubt, though, that at present there is more dissatisfaction with the ills which arise from the diversity in the construction of rolling stock than ever before, and that railroad managers and car-builders are looking wistfully to the future in the hope that some way may be opened by which railroad companies or their representatives may be led to agree upon a uniform standard for the construction of cars, or at least of those parts of cars which require renewal the oftenest.

When railroads were first built, there were very few if any connecting lines. The cars on one road seldom left the line where they belonged, and therefore it was of little importance how they were built. When cars began to be interchanged from one line to another it was found, first, that the draw-bars were of different heights, and, therefore, that it was difficult to couple the cars. When the Master Car-Builders' Association was organized this was one of the earliest subjects which occupied the attention of the members, and after several years of consideration it was agreed to recommend a distance of 2 ft. 9 in. from the top of the rails to the centre of the draw-bar for the height of the latter. This has been very generally agreed to, and probably very few new cars are now built with draw-bars of a different height, and there is every reason to believe that the cars of the country are gradually approximating to this standard.

The next subject of this kind which attracted the attention of the Master Car-Builders' and Master Mechanics' associations, was the system, or rather want of system, of screw threads in use. The result of their deliberations was to recommend the adoption of the Sellers or Franklin Institute system. Unfortunately, however, when this was done the matter was not taken up in any very thorough way, and at the time it was adopted, and for years after, all that was supposed to be implied by that system was the number of threads to the inch. The result has been that members of the two associations have, in many cases, adopted taps and dies the threads of which on one road do not agree with those on the others, either in the diameters of the screws or the form of the threads. Good workmanship is therefore impossible where bolts and nuts must be interchanged. A bolt of large diameter cannot be persuaded to enter a small nut, and a large nut will be loose and liable to shake off from a small bolt. Although the standard pitch, or number of threads to the inch, specified for the Sellers system of screw threads has now been very generally adopted, yet, owing to the fact that the other dimensions, which also form part of the system, have not been followed out, the interchangeability of bolts and nuts is almost as impossible now as it was before the Sellers system was adopted. Some action seems now to be needed which will lead to the adoption of taps and dies conforming exactly to the standard, as specified by the committee of the Franklin Institute, which established it in 1864. Perhaps no better use for a part of the fund now under the control of the Master Mechanics' Association could be found than to buy a set of standard screw-gauges to be owned by that Association, and kept among its archives, to be used only to determine the correctness of other gauges to be used in workshops.

After the action on the matter of screw threads, the next move made by the Master Car-Builders' Association, to bring about uniformity, was the adoption of a standard form and dimensions for car axles. This has been the subject of a good deal of warm discussion, and is among the subjects which will again come up at the conventions next year. A great difference of opinion exists regarding it; the more conservative members think the size of axle recommended is too large, and others think it is too small. In this connection, a little history may be interesting and instructive. On the Baltimore & Ohio Railroad the journals of the car axles were first 2 in. diameter by 4 in. long. They were next increased to 2½ in. diameter by 4 in. In 1853 Mr. Hayes, who was then Master of Machinery on that road, increased the journals to 3 in. diameter by 5½ in. long.

When this was done, one of the higher officers made a great outcry, and expressed his belief that the road would be ruined if such extravagant notions were carried out. The latter dimensions were adopted, and the road was not ruined nor seems likely to be because the journals of its cars are too large. A journal 8 × 5½ in. was no larger in proportion to the loads carried then than 3½ × 7 in. is to the loads carried now.

The importance of uniformity in the construction of cars seems now to be fully realized by nearly all master car-builders. The officers in charge of the transportation departments, however, do not seem fully to appreciate its importance, no doubt because they do not encounter and are not obliged to provide for the evils which the lack of uniformity entails.

It seems hardly necessary to speak of these. Any one who will visit any repair shop on a through line will see the tons of castings which must be kept on hand for repairs, and only those who have charge of such work know the delay and confusion and cost which result from this diversity. When a journal-bearing is worn out the question arises what pattern is it; then the right one must be found, and if it is not on hand the car must be "set out" until one is supplied. In many cases mistakes are made, and the wrong kind of bearing is put into a box and becomes a constant source of trouble thereafter until it is removed.

Not only is the cost of repairs very much increased by this confusion and diversity, but it would be possible to produce the materials used in making repairs for much less if there was uniformity in the forms and sizes. For example, a proprietor of a forge remarked that it was impossible for him to run his establishment without orders, because if he made axles of one size he was not at all sure he could sell them, whereas if there was a standard axle in use, during the dull months of the year he could run his works on that pattern, and be certain of a demand for them thereafter. As things are now, he is obliged at certain seasons to stop work and await orders. The manager of a rolling mill in the West remarked to the writer a few months ago that he would put up special machinery for the manufacture of the bar iron which he produced into car-truck frames if there were standard patterns in use. At present, he said, he would be obliged to get a great variety of forms for making frames to suit the great diversity of trucks. If there were one or two standard patterns, he said, he could run his mill and machinery the year round on them, increasing or diminishing the supply as the market required, and thus produce them at considerably less cost than is now possible. The same thing is true of journal bearings, springs, dust-guards, draw-bars and all other parts of cars which require most frequent renewal. If these were made to a common standard, they would soon become staple articles of merchandise, and the cost of their production and price in the market would be diminished, as is always the case with staple articles.

The difficulty in the way of bringing about this much-needed reform is, that the railroad companies have no organization through which they can act. Each company is independent of all others, and does what its officers direct. The only thing which associations like the Master Mechanics' and Car-Builders' can do is to recommend certain things. The members have not the requisite authority to enforce such recommendations, so that the adoption of the proposed standards is purely a voluntary matter.

The thing to be brought about is agreement among the officers of the different roads. Take the standard axles in use on any of a dozen of the principal lines, and the general adoption of any one would be better than to have the existing diversity. It may be that some given size may have a slight advantage over some other, but this is of much less importance than that they should all be alike. Now of course agreement becomes more difficult just in proportion to the number of people concerned who must be induced to think alike. Take the whole country over, and the interests are very diverse, the conditions to be fulfilled at one place very unlike those in another, and therefore what might be right in one locality might be wrong in another. Besides, the different lines of road in the country are gradually falling into great systems. Thus the New York Central, with the Boston & Albany, Lake Shore, Canada Southern, Great Western of Canada, Michigan Central and Wabash, with their connections, may be said to form one great system. The Pennsylvania, with its leased lines, and the Baltimore & Ohio each forms another system. Now, it would be a very much easier matter to induce each of these systems to agree to plans for the uniform construction of cars for their own system, than to get them all to agree upon one plan.

If each of these separate systems should agree, the

condition of things would then be that there would be three different kinds of cars instead of three dozen.

It would seem, then, that there would be much better hope of accomplishing the desired end by aiming at uniformity for the great systems, than for the whole country. On the Pennsylvania roads the construction of rolling stock is gradually approximating to uniformity, but on the others the practice is still in a very chaotic condition. Doubtless the reports of the two committees, one of the Master Mechanics' and the other of the Master Car-Builders' Association, which now have this subject under consideration, may help to bring about the much-desired end, especially if there should be unanimity among the members thereof, and if the subject is clearly and forcibly presented in their reports.

THE NEW YORK CENTRAL & HUDSON RIVER REPORT.

The report of this company, like that of the other trunk lines, but more probably than that of any other one of them, not even excepting the Pennsylvania, reflects to a great extent the condition of business in the country. It is of course not an accurate gauge; its traffic sometimes increases in seasons of light production and general depression by a diversion from the canal made by unprofitably low rates, as the business of the Pennsylvania may suffer in a time of general prosperity by reason of an exceptional depression in some of the great industries of Pennsylvania. But the trunk lines are channels for the outlet of products of two-thirds of the country, and no other routes reflect nearly so closely the condition of the country.

This being the case, it is a matter of national interest to know that the gross earnings of the New York Central & Hudson River Railroad, whose course has been downward from 1872-73 (at the end of which came the panic) to 1876-77, falling off in that time nearly one-fifth, last year turned and increased—increased materially, as much as 8½ per cent.

An examination of the report shows that this increase of earnings was due wholly to an increase of traffic, and to an increase in one kind of traffic, the freight, the average rate having decreased, which is unlike the experience of many other roads this year.

As a sign of the times—indicating that prices have reached bottom, and a condition has been attained which will afford a firm foundation for industrial progress hereafter, perhaps it is just as important and encouraging to see that the expenses as well as the earnings have ceased to decrease, and that there was even a considerable increase (8 per cent.) last year. The decrease in expenses has lasted just as long as the decrease in gross receipts, but has generally been greater in proportion, so much so that when receipts fell off \$850,000 from 1873 to 1874, profits increased \$336,000; and in the three years from 1875 to 1877, while there was a decrease of \$2,450,000 in gross earnings, net earnings were almost stationary. But the course of earnings and expenses on this road have such a general interest that we present them below for the past ten years. Only half of that period was the New York & Harlem leased by the Central, but we have consolidated their earnings and expenses for those years, and the mileage of road has remained substantially the same for the whole period:

Gross and Net Earnings and Working Expenses, New York Central & Hudson River Railroad, for Ten Years.

Year.	Gross earnings.	Working expenses.	Net earnings.
1868-69.....	\$24,847,965	\$14,583,158	\$10,264,809
1869-70.....	24,910,589	15,733,481	9,177,118
1870-71.....	24,670,868	15,337,239	9,333,629
1871-72.....	28,437,201	18,165,820	10,271,381
1872-73.....	32,490,021	19,570,047	12,920,974
1873-74.....	31,650,387	18,388,298	13,262,089
1874-75.....	29,027,218	17,262,108	11,765,110
1875-76.....	28,046,588	16,124,172	11,922,416
1876-77.....	20,579,089	14,046,162	11,632,924
1877-78.....	28,910,555	16,135,977	12,774,578

This tells its own story. The net earnings last year, it will be seen, have been exceeded but twice in the history of the road. Considering the returns which the road makes to its proprietors they are in every respect satisfactory. This satisfactory income enjoyed by this road causes it to be the greatest obstacle in the way of any considerable advance in rail freights, should anything make such an advance otherwise practicable. It makes enough. Its average rates, with expenses as they now stand, are probably satisfactory to its owners and managers. A better adjustment of rates it may make great efforts to secure, but if combination with its competitors makes possible a considerably greater profit on through traffic (which all these other roads and their connections need and which would be only fair), the effect eventually will probably be a reduction in the average local rates.

The striking features of the traffic of the year are the immense increase in the freight traffic, and the reduction of the passenger traffic to the smallest amount since 1863—both, probably, characteristic of the times—very large production (of agricultural products),

and very small profits, so that while shipping unusually large quantities of freight, people economize severely and travel as little as possible. A similar course of traffic was shown in the Erie report, which we published last week, and has been evident in other of the recent reports. Railroad officers in presenting the fact of decrease in passenger traffic in their reports, sometimes speak of it as caused by the cessation of the Centennial traffic. But in many cases, as in those of the New York Central and the Erie, the passenger traffic is not only less than in the two (fiscal) years in which there was Centennial travel, but also less than for several years before. The course of traffic on the New York Central for ten years is shown below:

	Passenger mileage.	Tonnage mileage.
1868-69.....	341,137,567	606,541,544
1869-70.....	346,898,809	788,690,604
1870-71.....	313,234,356	905,854,651
1871-72.....	342,339,006	1,041,984,687
1872-73.....	364,356,586	1,277,489,897
1873-74.....	350,781,541	1,391,500,707
1874-75.....	338,034,360	1,404,008,029
1875-76.....	353,136,145	1,674,447,055
1876-77.....	316,947,323	1,619,948,685
1877-78.....	300,302,140	2,042,755,132

In 1872-73 the passenger traffic culminated. Now, in 1877-78 this traffic was one-sixth less, but the freight traffic had increased in the same time 60 per cent. There seems to be no limit to the growth of freight traffic. It was to be expected that it would be larger in 1878 than in 1877, but that the increase was so much—more than 25 per cent.—will astonish many. There is no doubt that much of the increase was due to unprofitably low rates, which attracted much traffic that otherwise would have gone by canal, and the large reduction in the average rate received shows that the increase must have been chiefly—probably it was wholly—in through freight, and in east-bound through freight; for the average rate on west-bound freight was certainly much higher than the year before. A great deal of the east-bound through freight must have been carried for something like 0.4 cent per ton per mile, and not unscolded for less—some of it, it is reported, for half that sum.

Further evidence of the increase of the through traffic is shown by the increase of the average distance hauled from 253.8 to 265.3 miles—a longer average haul than any other road, except the Pacific roads, can show, probably, indicating that its proportion of through traffic is the largest in the country. Considering that a very large proportion of this through traffic passes over but 300 miles of this road, the length of haul is truly remarkable. The Erie's average last year was 199 miles; the Pennsylvania's, for the year 1877, 153.4 miles. The long haul is a great advantage.

But before leaving the freight traffic, let us give another glance at the column showing the tonnage-mileage for the past ten years. What a tremendous growth! The last year of the decade it was three and a third times as great as in the first year. And yet 1878 was a year of great business depression and stagnation in many important branches of industry, while 1869 was a time of great activity in manufacturing, mining and new enterprises. The difference is doubtless chiefly in agricultural production, which seems to increase under almost any circumstances, and most of all when other industries are prostrate. It must not be forgotten, however, that the growth of railroad traffic has not been parallel with the increase in production. The trunk lines have gained largely by carrying what formerly was considered unable to pay the cost of railroad transportation, but went almost exclusively by lake and canal. Nevertheless, there has been a great increase in agricultural production, as other statistics show, and this very year of unexampled traffic on the New York Central, the canal traffic also was the largest on record.

If we take a passenger mile as equivalent to two ton-miles, then the total traffic of the year was 1.73 per cent. greater than that of the previous year, and, as we have seen, was carried with an increase of 8 per cent. in the expenses. Passenger expenses increased, notwithstanding the decrease in passenger mileage. The latter was doubtless due to a falling off in through travel, for (as was the case with the Erie), there was some increase in the number of passenger journeys. The reduction of their average length from 35.3 to 33.6 was sufficient to reduce the passenger mileage 5 per cent. There was an increase of 6.4 per cent. in the train mileage by which this smaller traffic was carried, the average passenger-train load having fallen from 69 to 61.4. This is the unmanageable traffic, for which trains have to be run pretty much the same whether it be heavy or light.

The increase of 25 per cent. in the tonnage-mileage of commercial freight was carried with an increase of 13.7 per cent. in freight-train mileage, the average load having increased from 165.7 to 183.9 tons. The latter is the largest in the history of the road, which might

seem remarkable in view of the fact that the increase in traffic must have been almost wholly in freight going one way—to the East—so that for every additional car-load a car had to be hauled back empty. But the average train-load is probably not so much as half the average through train-load eastward on this road, so that the addition of a train going through east fully loaded and returning entirely empty does not decrease the average train-load. We know of no other road in the country which has larger average loads of freight, though many use much more powerful engines. The advantages of grades and alignment and the independent tracks for freight trains combine to secure this advantage; but many roads with much more unfavorable grades come close to its average, by the use of heavy locomotives. The Erie, for instance, which has heavy grades, sharp curves and for a considerable part of its length only a single track, where fast running may become necessary to keep on time, last year had average loads of 159.3 tons, though then only a small proportion of its locomotives were of the heavier modern types.

The cost of the New York Central now has reached very nearly \$100,000,000, or \$135,135 per mile of road and \$47,236 per mile of track owned, this including, it must be remembered, many millions of dollars worth of costly property in the city of New York. The stock and debts are about \$19,000,000 more. The amount paid to the stock and bondholders during this last fiscal year was at the rate of very nearly 10 per cent. on the cost of the road, though but 7.64 per cent. on the face of the stock and bonds.

An examination of the details of working expenses, given in full in our summary of the report, will show that the increase was pretty well distributed among the different departments.

Owing doubtless largely to the great increase in freight traffic, a material reduction was made in the cost per ton per mile, but the cost per passenger mile increased. Receipts, expense and profit for these two units (excluding company's freight in all the calculations) have been, for four years:

	1878.	1877.	1876.	1875.	1874.
Passenger mile.					
Receipt.....	2.056	2.07	1.91	2.14	2.14
Expense.....	1.276	1.14	1.09	1.36	1.34
Profit.....	0.780	0.93	0.82	0.78	0.80
Ton mile.					
Receipt.....	0.932	1.01	1.05	1.27	1.46
Expense.....	0.602	0.70	0.71	0.90	0.98
Profit.....	0.330	0.31	0.34	0.37	0.48

With the freight rates of 1877, last year's traffic would have yielded \$1,600,000 more profits; but the decrease in rates was made more than good by the decrease in average cost; and putting it the other way, with the expense per ton per mile as great in 1878 as in 1877, the profits would have been \$2,000,000 less than they actually were.

This year, for the first time we believe, the average freight rate has been less on this road than on the Erie. The Erie's expenses per ton-mile were lower than the Central's have ever been before this year, but are considerably higher than the Central's are this year, 0.674 cent. to 0.602. If the Erie could have been worked as cheaply as the Central (which in its present condition it would of course be folly to expect), its net earnings from freight would have been \$875,000 greater than they actually were.

It is, of course, quite possible that the traffic will be less in the current year than in 1877-78. The latter was swelled by two reasons: one, the succession of two great harvests; the other, the carrying of east-bound freight at extremely low rates for about two-thirds of the year. The greater of the two harvests was the last one, and its effect will continue until next August, or for five-sixths of the current year. Concerning the other cause—the carrying at unremunerative rates—we dare not prophesy; but evidently traffic will not be reduced by a cessation of railroad wars without increasing the profits on it. The outlook for this road, then, is very promising. There is certainly as much to carry as there was last year, and, taking the year round, through rates eastward can hardly be lower, and may average higher.

Record of New Railroad Construction.

This number of the *Railroad Gazette* contains information of the laying of track on new railroads as follows: Georgetown.—Completed from Georgetown, Tex., east by south to Round Rock, 20 miles.

This is a total of 20 miles of new railroad, making 2,263 miles completed in the United States in 1878, against 2,019 miles reported for the corresponding period in 1877, 2,278 in 1876, 1,833 in 1875, 1,844 in 1874, 3,690 in 1873, and 7,160 in 1872.

THE EAST-BOUND POOL is supposed to be in operation, though not yet arranged for at all the pooling points. The tariff of Nov. 25 was to be strictly enforced beginning Dec. 19, and the indications are that it has been, the complaints

of discrimination against Chicago having ceased. It is reported that there were no contracts outstanding that lasted until Christmas. The division of the Chicago shipments was left to arbitration, and the arbitrator has been selected, though we have not heard that he has yet made his award. The division, whatever it may be, is to date back to Dec. 19, so that all inducement to cut is removed. Difficulties that have arisen at Peoria and Terre Haute have been referred to the Joint Committee (representing both trunk lines and Western roads) for action, and are being investigated by them. Arrangements have been made for such reporting of the daily fluctuations in the steamer rates to Liverpool that the through rates not only may be but may be known to be composed of the full regular rail rates plus the current steamer rates. An effort is made to secure an agreement to cease absolutely the issuing of passes to shippers of freight, an "inducement" quite commonly offered to take traffic from rivals. So far as there has been any expression by shippers concerning the arrangement, they seem to have no objection whatever to the objects aimed at by the combination, but many express the fear that the agreement will be imperfectly carried out, permitting shipments at less than regular rates at the same time that full rates were maintained at their city. This, of course, is just exactly what the combination is made to prevent, and it is only in case of its failure that the fears of these people can be realized. But this is another reason for making the greatest exertions to maintain rates absolutely everywhere. It is only fair to the shippers that they should be treated alike, wherever their business may be, and should know what to depend upon. The man who sells corn now, when the railroads charge 19½ cents a bushel from Chicago to New York, will feel badly treated if there should be a quarrel New Year's bringing the rate down to 11½ cents or less—and just about that is what happened last year. But, of course, we cannot expect people who are shedding each other's blood by the painful to take much heed of the wounds that their customers may happen to receive in the *mêlée*.

THE BELGIAN STATE RAILROADS, though increasing in mileage and in equipment, makes smaller and smaller profits per train mile and per mile of road. The proportion of expenses to receipts is much greater than formerly. Some time ago it leased several railroads for 50 per cent. of their gross earnings, thinking then it was a fair bargain. Since then the expenses of its whole system, of which these leased roads are mostly the less important parts, have one year been up to 68 per cent., and they seem unlikely again to be as low as 60 per cent. Per train mile the expenses have been remarkably steady, but the receipts have gone down, and the profits are not much more than half what they were fifteen years ago. At intervals of five years receipts, expenses and profits have been:

	1862.	1867.	1872.	1877.
Earnings.....	\$1.68	\$1.28	\$1.41	\$1.27
Expenses.....	0.77	0.78	0.84	0.78
Net earnings.....	\$0.91	\$0.50	\$0.57	\$0.49

The earnings per mile of road, which were \$10,688 in 1862, increased to \$14,695 in 1872, but had fallen to \$13,053 in 1877; but expenses increased so much that the profit of \$7,290 in 1862 fell to \$5,645 in 1867, \$5,885 in 1872 and \$5,057 in 1877. In 1869, working 465 miles of road and having gross earnings of but \$6,500,000, the government made a profit of \$1,750,000, after paying expenses and fixed charges; in 1877, working 1,339 miles of road and earning \$18,600,000, the profit was but \$529,000.

The government roads seem to be extraordinarily well stocked, for there are 1,066 locomotives and 33,395 cars of all kinds for the 1,339 miles of road. It is hard to believe that there are not more than are necessary; for while the locomotives made an average mileage of 24,000 miles in 1872, they made but 18,588 in 1877, the number having increased in that time from 638 to 1,066.

NOVEMBER EARNINGS are reported in our table for 27 railroads, with 17,070 miles of road, which is about 21 per cent. of the total in operation in the United States. These roads, with 4.2 per cent. greater mileage, earned in the aggregate 3.5 per cent. more than in November, 1877, the average earnings per mile having decreased from \$577 to \$573. However, 21 out of the 27 roads had increased earnings, most of the decrease having been on a single road, the Central Pacific, whose falling-off is difficult to understand as it has had this year a great wheat crop to carry, while last year it had a very poor one. The greatest increases in earnings are shown by the new roads, but aside from these are several roads that did materially better this year than last. Except the Central Pacific and the Chicago, Milwaukee & St. Paul, no road shows a decrease as great as 20 per cent. in earnings per mile; and a large increase of mileage of road with light traffic has much to do with the latter.

For the eleven months ending with November we have returns for 26 roads, with 17,887 miles. These, with 3.6 per cent. greater mileage, earned in the eleven months \$104,937,597, in 1878, which is 5.5 per cent. more than in 1877, their average earnings per mile having increased from \$5,763 to \$5,872, or 1.9 per cent.

THE CINCINNATI SOUTHERN RAILWAY has its completion assured by a decision of the Supreme Court of Ohio last Tuesday declaring constitutional the act under which the vote of \$2,000,000 aid was made by Cincinnati last summer. The contract was made long ago, but was not likely to be carried out, of course, so long as the validity of the securities with which payment was to be made was questioned. As the city of Cincinnati is already paying about \$1,200,000 a year interest on its investment in the incomplete line, which is of very little value to it, it is important to it that it

should be completed at the earliest date possible, so that it may get the benefit there will be from a direct line to Chattanooga, whatever that may be.

Contributions.

Working Railroads by Martial Law.

A gentleman in search of information concerning the subject of railroad administration, applied to a railroad officer who had been an army officer to know if there were any books on army administration. The gentleman wrote to an old companion-in-arms, who is still an army officer—and an accomplished and distinguished one—for information, and received the following reply, which we publish, without the consent of the writer, for the benefit of all concerned. Railroad companies desiring to secure General —'s services, on the terms indicated, may address this office, with a check (certified) for the first quarter's salary. The letter is as follows:

"MY DEAR —: There is no book that gives the duties of the different grades in the service. Knowing nothing about railroads, and, therefore, on the wise principle the government follows in selecting generals,* feeling perfectly confident of my ability to run a railroad, I would say that the president ought to be the commander-in-chief, next the superintendent, next the division superintendents, directly responsible to the general superintendent. These are the great executive officers of the road. The president is the financier, and if he interferes with the running of the divisions, except through the general superintendent, he ought to be impeached. The directors are his cabinet, and if they advise him to buy too many side lines, they too should be cashiered. Next to the division superintendents, especially at the termini, and at all important places like Syracuse, Rochester, etc., there should be a colonel who should be responsible that the ticket agent, train-starter and other subordinates are always prompt in the discharge of their duties. He should see that no trunks are permitted to slide gently down any plank or other device till they reach the ground in safety. On the contrary, with a view to stimulating trade, the porters should be carefully taught to jerk out each trunk and let it fall on the corner. This will require the traveler to buy a strap, if not a new trunk. Each conductor should have charge of his train and all hands, and if guilty of any act of politeness toward the passengers he should be brained with a car-hook. To say "yes, sir," when a simple and bluff "yes" would answer the question should be punished by suspension or stoppage of pay.

"In case of strikes the railroad should be protected by troops whose arms can be taken away if there is any danger of their doing harm.

"These are all the points that suggest themselves just now, but they will be sufficient to convince any discerning man that a man who knows nothing about railroads is just as competent to run one as the stock of men who have been in the business all of their lives.

"To this end, in view of being speedily mustered out of the service, I have the honor to apply for the presidency of a through line; salary, \$25,000 a year. Nothing is more short-sighted, even contemptible, than for a great corporation to haggle over the salaries of its principal officers. Please reply by return mail, as you may otherwise lose my valuable services."

* The writer and the gentleman addressed are both generals, and they ought to know.—Editor.

General Railroad News.

MEETINGS AND ANNOUNCEMENTS.

Meetings.

Meetings will be held as follows:
Wabash, annual meeting, at the office in Toledo, O., Feb. 19, 1879, at 10 a. m.
New York Elevated, annual meeting, at the office in New York, Jan. 14.
New York, New Haven & Hartford, annual meeting, at the Temple of Music in New Haven, Conn., Jan. 8, at 11 a. m.

Dividends.

Dividends have been declared as follows:
Philadelphia, Wilmington & Baltimore, 4 per cent., semi-annual, payable Jan. 2.
Lake Shore & Michigan Southern, 3 per cent., payable Feb. 1, 1879. The last dividend was 1 per cent., in August last.
Michigan Central, 2 per cent., payable Feb. 1, 1879. The last dividend was paid in June.
Chicago, Rock Island & Pacific, 2½ per cent., quarterly, payable Feb. 1, 1879. The 2 per cent. is a direct dividend on the stock; the ½ per cent. is derived from a 2 per cent. dividend on the Iowa Southern & Missouri Northern stock held in trust for the Rock Island stockholders.

Foreclosure Sales.

The Illinois & St. Louis Bridge was sold in St. Louis, Dec. 20, under decrees of foreclosure of the first and second mortgages. Bought for account of the bondholders by Anthony J. Post, of New York, for \$2,000,000. The history of this great bridge over the Mississippi is well known. By a recent statement the company had outstanding \$3,945,000 first mortgage, \$2,000,000 second mortgage, \$3,000,000 third mortgage bonds and \$3,779,695 stock, and there were also receiver's debts and certificates amounting to \$657,879. A plan of reorganization was adopted some months ago by the bondholders, who are chiefly resident in England.

The Painesville & Youngstown Railroad will be sold Jan. 7 under a decree of foreclosure granted by the United States Circuit Court at suit of the Farmers' Loan & Trust Company. The decree fixes the amount due for bonds and unpaid coupons under the first mortgage at \$1,213,549.57, and there is also due \$930,054.06 for second mortgage bonds and coupons and \$631.70 as a vendor's lien on certain property. Terms of sale are \$10,000 cash and the balance in 60 days. The road is of 3-foot gauge and 62 miles long, from Painesville, O., to Youngstown.

RAILROAD EARNINGS IN NOVEMBER.

NAME OF ROAD.	MILEAGE.					EARNINGS.					EARNINGS PER MILE.				
	1878.	1877.	Inc.	Dec.	Per c.	1878.	1877.	Increase.	Decrease.	Per c.	1878.	1877.	Inc.	Dec.	Per c.
Atchison, Topeka & Santa Fe.	800	741	128	17.3		\$450,000	\$335,078	\$120,922			30.1	\$525	\$452		
Burlington, Cedar Rapids & North.	434	424	10	2.4		129,404	138,985		\$9,491	6.8	298	328			
Cairo & St. Louis.	146	146				18,292	16,207	2,025			12.4	125	111		
Central Pacific.	2,180	2,067	113	5.5		1,543,000	1,855,774		312,774	10.0	708	808			
Chicago & Alton.	678	678				414,239	391,616	22,623			5.8	611	578		
Chicago & Eastern Illinois.	159	159				75,167	65,345	9,822			13.6	473	411		
Chicago, Milwaukee & St. Paul.	1,729	1,412	317	22.4		800,029	802,027		82,908	9.3	408	432			
Chi. & N. Western.	2,078	1,963	85	4.3		1,403,728	1,230,412	167,316			13.5	676	620		
Cleveland, Mt. Vernon & Del.	157	157				36,183	36,008	175			0.5	230	229		
Denver & Rio Grande.	334	300	34	11.3		117,363	80,083	37,280			46.5	351	267		
Illinois Central, Illinois lines.	819	819				483,948	474,012	9,936			2.1	591	579		
Iowa lines.	401	401				125,365	144,880		19,515	13.5	313	361			
Indianapolis, Bl'm'gton & West.	343	343				90,172	80,815	15,357			19.0	260	220		
International & Great Northern.	516	516				234,023	184,963	49,060			26.5	454	358		
Kansas Pacific.	673	673				391,421	364,188	27,233			7.5	582	541		
Missouri, Kansas & Texas.	786	786				288,459	274,184	14,275			5.2	367	349		
Mobile & Ohio.	527	527				397,581	252,706	144,875			21.7	584	480		
Nashville, Chattanooga & St. Louis.	349	349				156,994	158,731		1,737	1.1	450	455			
Paducah & Elizabethtown.	185	185				27,300	32,836		5,537	19.9	148	177			
St. Louis, Alton & Terre Haute.	71	71				51,270	47,063	4,207			8.9	722	663		
Bellefonte Line.	685	685				533,700	458,075	75,625			16.5	779	660		
St. Louis, Iron Mt. & Southern.	530	530				312,592	312,338	254			0.1	590	589		
St. Louis, Kansas City & North'n.	354	354				113,443	95,820	17,623			18.4	320	271		
Scioto Valley.	100	100				27,500	13,855	13,645			98.2	275	139		
Toledo, Peoria & Warsaw.	237	237				90,145	90,086	59			0.1	380	380		
Union Pacific.	1,042	1,042				1,084,324	1,022,354	61,970			6.1	1,041	981		
Wabash.	688	688				452,740	395,050	57,690			14.6	658	574		
Totals.	17,070	16,383	687			\$9,779,490	\$9,449,617	\$329,873			3.5	\$573	\$577		
Total increase.			687		4.2										

RAILROAD EARNINGS, ELEVEN MONTHS ENDING NOV. 30.

NAME OF ROAD.	MILEAGE.					EARNINGS.					EARNINGS PER MILE.				
	1878.	1877.	Inc.	Dec.	P. c.	1878.	1877.	Increase.	Decrease.	P. c.	1878.	1877.	Inc.	Dec.	P. c.
Atchison, Top. & S. Fe.	804	724	80	11.0		\$3,005,819	\$2,342,327	\$1,173,492		48.2	\$4,485	\$3,300	1,185		33.5
Burlington, Cedar Rapids & Northern.	430	379	51	13.5		1,402,991	1,120,327	282,664		25.2	3,263	2,656	307		10.4
Cairo & St. Louis.	146	146				18,314	16,166	2,148		6.7	1,260	1,181	79		6.7
Central Pacific.	2,085	1,892	193	10.2		16,314,363	15,696,093	618,270		3.9	7,823	8,204		471	5.7
Chicago & Alton.	678	678				4,345,433	4,147,544	197,889		4.8	6,406	6,117	292		4.8
Chicago, Milwaukee & St. Paul.	1,489	1,404	85	6.1		7,735,072	7,444,973	290,099		3.9	5,195	5,303		108	2.0
Chi. & N. Western.	1,849	1,770	79	4.5		13,407,096	11,786,672	1,621,024		13.8	7,089	6,659	430		6.5
Cleveland, Mt. V. & Del.	157	157				351,877	356,725		4,848	1.4	2,241	2,272		31	1.4
Denver & Rio Grande.	327	296	31	14.3		1,032,945	700,239	332,706		47.5	3,159	2,448	711		29.0
Grand Trunk.	1,390	1,389	1	0.1		8,218,701	8,639,913		421,212	4.9	5,913	6,220		307	4.9
Great Western.	511	511				4,080,078	4,062,395	17,683		0.7	8,092	7,950	142		0.7
Illinois Cen., Ill. lines.	819	748	71	9.5		5,045,782	4,814,922	230,860		4.8	6,161	6,437		276	4.3
Iowa lines.	401	401				1,350,764	1,378,440		27,676	2.0	3,368	3,438		70	2.0
Ind., Bloom. & Western.	343	343				1,161,836	1,116,546	45,290		4.1	3,387	3,255	132		4.1
International & Gt. Nor.	516	516				1,403,389	1,363,906	39,483		2.9	2,729	2,643	86		2.9
Kansas Pacific.	673	673				3,446,119	3,036,442	409,677		13.5	5,121	4,512	609		13.5
Missouri, Kan. & Tex.	786	786				2,739,111	2,918,299		179,188	6.1	3,485	3,713		228	6.1
Mobile & Ohio.	527	527				1,617,774	1,675,833		58,059	3.5	3,070	3,173		103	3.5
Nash. Chattanooga & St. L.	349	345	4	1.2		1,482,129	1,580,145		105,016	6.6	4,218	4,508		380	8.3
St. Louis, Alton & T. H.	71	71				454,044	470,558		22,514	4.7	5,295	6,712		317	4.7
Bellefonte Line.	685	685				4,037,632	3,974,118	63,514		1.6	5,804	5,802	2		1.6
St. Louis, Iron Mt. & So.	530	530				3,038,304	2,891,729	146,575		5.1	5,733	5,456	277		5.1
St. Louis, K. C. & Nor.	354	354				1,089,636	1,009,417	80,219		7.9	3,078	2,851	227		7.9
Toledo, Peoria & War.	237	237				1,155,915	1,015,980	139,935		13.8	4,877	4,280	597		13.8
Union Pacific.	1,042	1,042				11,545,955	11,405,528	140,427		1.2	11,081	10,946	135		1.2
Wabash.	688	688				4,963,558	4,210,016	753,542		10.8	6,778	6,302	476		7.6
Totals.	17,887	17,262	625			104,937,597	99,477,253	\$5,460,344			\$5,872	\$5,763	\$109		1.9
Total increase.			625		3.6										

Southern Railway & Steamship Association.

The Nashville (Tenn.) American of Dec. 18 says:

"After a prolonged session from Thursday last to 4 p. m. yesterday, the joint committee of the Green Line and Southern Railway & Steamship Association completed its labors."

"A large representative meeting of the Green Line and steamship interests was held in Atlanta on the 25th of last month, at which a basis of settlement was agreed to and remitted to this committee for an adjustment of rates in accordance with the Atlanta agreement."

"The agreement provided, substantially, that the business from certain points north of the Ohio River for Charleston, Savannah, and other coast points, should, in a measure, be conceded to eastern lines; that the rates to the coast should be advanced to present Augusta rates, so as to protect rates to interior points, and that rates should be adjusted so as to give the Green Line all the business for Augusta and the interior. This was virtually a division of territory on business from points north of the Ohio River to the south."

"For two days this committee labored incessantly to fix rates to correspond, only to find that it could not be done, it being impracticable to advance rates to the coast beyond the locals combined, which were less than rates to Augusta, the eastern lines thus virtually admitting their inability to comply with their part of the Atlanta agreement."

"At this point it was agreed by a majority of the committee to fix rates pretty much regardless of the Atlanta basis, as we believe, to the detriment of the Green Line interests. Instead of taking existing rates to Augusta as a basis, an indiscriminate rate was made to coast points, composed of locals combined, and thus the entire basis of making rates from points north of the Ohio, in vogue heretofore, was thrown overboard, at least so far as business to the coast is concerned."

"Rates from Cincinnati were made about the same as from Louisville and from Chicago less than from St. Louis, thus entirely reversing the former basis. These features were earnestly opposed by a portion of the Green Line representatives, but, owing to dissensions among themselves, were not successful."

"The rates as made will go into effect Jan. 15, to remain in force until March 5, 1879, when the committee will meet at Washington city to compare rates and revise its work."

"The general impression seems to be that too many concessions were made to eastern lines, and we are glad to note that Mr. E. B. Stahlman, representing the Louisville & Nashville Railroad, entered his protest against the action of the committee in disregarding the Atlanta agreement, and had his protest made a part of the committee's minutes."

"The disregard of the Atlanta agreement, as stated by Mr. Stahlman, virtually gave up to the eastern lines all business from north of the Ohio River to coast points, without any assurances of an equivalent to the Green Line, and, besides, it resulted in an adjustment of rates on such an unfair basis that virtually discriminates against the products of Kentucky and Tennessee."

"Messrs. Knox and Crosby, we are advised, also objected."

Extensions of Mail Service.

Mail service has been ordered over the Central Pacific's new loop line from West Oakland to Tracy Junction, 76 miles. The main line service between San Francisco and Ogden is ordered over this line, and a new local route made of the old main line by way of Niles and Livermore.

The service has also been ordered over the following new lines or extensions:

Toledo, Delphos & Indianapolis, new, from Holgate, Ind., to Shane's Crossing.

Omaha & Republican Valley, service extended from David City, Neb., to Rising City, 10 miles.

East Line & Red River, service extended from Leesburg to Winstonsburg, 12.5 miles.

Chicago, Milwaukee & St. Paul, Iowa & Dakota Division, service extended from Algona, Ia., to Pattersonville, 98 miles.

Railway Association of Michigan, Passenger Department.

At a meeting held in Detroit, Dec. 18, this Association adopted the amended agreement for 1879, which may be summed up as follows:

Half-fare tickets to be issued to ministers under certain restrictions. Passes to be issued to a limited extent to papers on the line of a road which print its time card.

No passes to be issued to sheriffs, marshals, chiefs of police or their deputies, and no annual or time passes to be issued to publishers of local railroad guides, their assistants or employees.

Stop-over checks to be limited to a time not exceeding 10 days from date of issue; and such stop-over checks to be granted only on tickets sold at full rates, except that the Flint & Pere Marquette Railway may be allowed to issue stop-over checks on excursion tickets at any point west of the Saginaw River, and the Grand Rapids & Indiana Railroad, the same privilege north of Big Rapids, and the Michigan Central north of Bay City.

One hundred and fifty pounds of baggage to be allowed free to each passenger holding a full ticket, and 75 pounds on each half ticket. This applies to all classes of business whatsoever. The excess baggage rates to be as follows: 15 miles or less, 15 cents per 100 pounds; 30 miles and over 15, 20 cents; 35 miles and over 30,

pounds for 1,000 miles, \$4.50; 100 pounds for 500 miles, \$2.25.

No reduction from regular rates to be made for excursion parties to competitive points on lines east of Michigan. The rate for all public gatherings, where reduced rates are given, to be two cents per mile each way, and round trip excursion tickets only to be issued. Nothing in this to be construed to interfere with the usual half-fares for Fourth of July excursions, state and county fairs, and Petoskey camp-meeting.

That a uniform practice should be had regarding the carriage of children upon all trains; conductors of all roads represented in this Association are instructed to collect for each child, between the ages of 5 and 12, one-half tariff rates, in all cases without exception—unless such children are provided with tickets; and we hereby agree to use every effort to secure the strictest possible enforcement of this rule upon our respective roads.

No fixed rule to be made as to cars or trains chartered for excursions, but as a basis for rates \$1 per mile per car, 60 passengers to the car, is recommended. For theatrical and other troupes, the rate shall be two cents per mile—short-line mileage—to parties of not less than ten. No free passes or reduced rates to be given to advance agents; and that a release be taken from all such troupes, releasing the railroad companies from liability for loss or damage of baggage.

That at the times of the vacations of the colleges located upon the several lines, within the state of Michigan, excursion tickets may be issued to students, to local stations, at two cents per mile each way.

No passes to be given to land agents, unless they are endorsed by the passenger department, and no rebates or commissions to be allowed to such agents.

ELECTIONS AND APPOINTMENTS.

Bellaire & Southwestern.—Mr. John Hart has been appointed General Manager. He recently held the same position on the Bellaire and St. Clairsville road.

Chicago & Atchison Bridge Co.—At the annual meeting in Atchison, Kan., Dec. 18, the following directors were chosen: Clement Rohr, L. L. Todd, Atchison; W. J. Boardman, Henry Chisholm, H. B. Payne, J. H. Wade, Cleveland, O.; A. E. Stone, New York.

Clarksburg, Weston & Glenville.—At the annual meeting in Clarksburg, W. Va., Dec. 14, the following directors were chosen: J. N. Camden, W. P. Thompson, W. N. Chancellor, Parkersburg, W. Va.; Isaac Jackson, Jane-Lew, W. Va.; Henry Brannon, J. M. Bennett, W. G. Bennett, Dr. T. B. Camden, Dr. A. H. Kunst, James G. Vandervoort, A. A. Lewis, Thomas A. Edwards, Weston, W. Va. The board elected J. N. Camden President; Henry Brannon, Vice-President; W. G. Bennett, Secretary; W. W. Harrison, Treasurer.

Denver & Rio Grande.—The Atchison, Topeka & Santa Fe Company having taken possession of this road under the lease, the following appointments are noted: Mr. D. C. Dodge will continue General Superintendent for the present, and Mr. W. W. Borst Superintendent, Mr. Borst acting also as Purchasing Agent. Mr. S. O. Snyder is appointed Storekeeper. Mr. N. W. Sample will be Division Master Mechanic, and will report to Mr. George Hackney, Superintendent of the Locomotive Department of the Atchison, Topeka & Santa Fe. Mr. John P. Whitehead, Auditor of the Atchison, Topeka & Santa Fe Railroad, will extend his jurisdiction over the Denver & Rio Grande Railway, and his directions as to all reports and accounts will be respected.

Detroit, Lansing & Northern.—Mr. Alfred Hardy, of Boston, has been chosen President to succeed James F. Joy, resigned. Mr. J. B. Mullikin, the Superintendent, will be made General Manager, it is said.

Illinois Midland.—The new Receiver has appointed A. E. Shrader Traffic Manager, with office at Paris, Ill.

Memphis & Little Rock.—A dispatch from Little Rock, Ark., Dec. 17, says: "Col. Rudolph Fink, was yesterday elected General Manager of the Memphis & Little Rock Railroad, vice Colonel M. Prichard, deceased." Col. Fink has been for some time Assistant General Superintendent of the Virginia Midland.

Memphis, Kansas & Colorado.—At the recent annual meeting in Cherokee, Kan., there was a split between two parties among the stockholders, and two separate organizations were had. Mr. T. L. Wilson, of Fort Scott, Kan., is President of one, and Mr. A. Mathewson, of Parsons, Kan., is President of the other board.

New York & Manhattan Beach.—At the annual meeting last week the following directors were chosen: Austin Corbin, J. B. Upham, Charles L. Flint, John J. Pickering, E. E. Pratt, Daniel C. Corbin, Geo. S. C. Dow, G. S. Morgan, C. F. Moulton, F. W. Duncan, Alfred Sully, Alfred C. Chapin, E. C. Humbert. The board elected officers as follows: President, Austin Corbin; Secretary and Treasurer, G. S. Moulton; Managing Director, Daniel C. Corbin.

Pittsburgh, New Castle & Lake Erie.—Mr. Joseph Ramsay, Jr., has been appointed Chief Engineer and Superintendent. Mr. Ramsay has been Superintendent of the Bell's Gap Railroad, and is known to our readers as an ardent advocate of the narrow gauge.

The other officers are: Henry R. Low, President; George A. Chalfant, Gen. James S. Negley, Vice-Presidents; John J. Saint, Secretary; Wm. A. Riddle, Treasurer.

Richmond & Danville.—At the recent annual meeting in Richmond, Va., Col. A. S. Buford was reelected President, with the following directors: John Bardsley, A. J. Cassatt, Isaac Davenport, Jr., J. N. DuBarry, Strickland Kneass, W. L. Owen, A. Y. Stokes, W. T. Sutherland. The Examining Committee of stockholders chosen was W. B. Isaacs, Thomas D. Neal, W. T. Scott, John P. Branch and R. V. Gaines. The board reelected J. N. DuBarry, First Vice-President; A. Y. Stokes, Second Vice-President; Richard Brooke, Secretary; W. E. Turner, Treasurer.

St. Louis Tunnel.—The bondholders who bought at foreclosure sale this tunnel, which forms the western approach to the St. Louis Bridge, have organized a new company with J. S. Walsh, President, and N. S. Chouteau, Vice-President.

St. Louis Bridge Co.—The bondholders who bought the Illinois & St. Louis Bridge at foreclosure sale, have organized this company by electing the following directors: G. B. Allen, J. S. Walsh, Edward Walsh, Jr., E. W. Woodward, St. Louis; Solon Humphreys, New York. The board elected Solon Humphreys, President; Edward Walsh, Jr., Secretary; Anthony J. Thomas, Treasurer.

Terre Haute & Worthington.—Mr. Dwight Hitchcock has been chosen Vice-President and Superintendent of Construction of this projected road.

PERSONAL.

—Dr. Strousberg, the famous railroad contractor, who built many roads in Germany and Austria, and at one time was said to employ 100,000 men, has offered his creditors three cents on the dollar of their claims, and the offer appears likely to be accepted.

—Herr Frederick Krupp, of Essen, the famous steel manufacturer, according to the Prussian income tax returns, had the third largest income in that county last year, two of the Rothschild family alone reporting a greater amount.

—The Chicago Tribune publishes the following report: "Mr. W. K. Muir, General Manager of the Canada Southern Railroad, has resigned his position, the resignation to take place Jan. 1. It is stated that no successor to Mr. Muir will be appointed, but the road will be managed hereafter by President J. Tillinghast, and Mr. W. H. Perry, the efficient General Freight Agent of the road, is to be made Traffic Manager."

—Mr. Wm. A. Dunphy, one of the trustees of one of the mortgages of the Atlantic & Great Western Railroad Company, was ordained priest, Dec. 21, by the Roman Catholic Bishop of Albany, at the Provincial Theological Seminary at Troy, N. Y. He was ordained deacon a year or two ago. At the time the mortgage was drawn and he was made a trustee he was a clerk in the law office of Mr. S. L. M. Barlow.

—Mr. James F. Joy, of Detroit, has resigned the presidency of the Detroit, Lansing & Northern Railway Company, which he had occupied, we believe, ever since the construction of its road.

TRAFFIC AND EARNINGS.

Railroad Earnings.

Earnings for various periods are reported as follows:

	1878.	1877.	Inc. or Dec.	P. c.
Eleven months ending Nov. 30:				
Pitts., Cin. & St. Louis.....	\$2,905,332			
Net earnings.....	1,028,066			
Ten months ending Oct. 31:				
Bur. & Mo. River in Nebraska.....	\$1,553,677	\$1,056,683	I.	\$496,994 47.0
Month of October:				
Bur. & Mo. River in Nebraska.....	\$307,581	\$216,233	I.	\$91,348 42.3
Second week in December:				
Chi. & Eastern Ill.....	\$16,472	\$16,311	I.	\$161 1.0
Chi. Mil. & St. Paul.....	177,000	167,844	I.	9,156 5.5
St. Louis, Iron Mt. & So.....	148,500	137,764	I.	10,736 7.8
Wabash.....	85,084	98,089	D.	12,405 12.6
Week ending Dec. 6:				
Great Western.....	\$73,407	\$90,184	D.	\$16,777 18.6
Week ending Dec. 14:				
Grand Trunk.....	\$163,142	\$201,926	D.	\$38,784 19.2

Grain Movement.

For the week ending Dec. 14 receipts of grain of all kinds at the eight leading Northwestern markets have been, in bushels, for the past six years:

1878.	1877.	1876.	1875.	1874.	1873.
3,834,457	2,808,557	2,732,511	2,129,850	2,247,072	2,626,598

This is the first week since navigation on the lakes has been wholly closed, and therefore the first of the winter movement, strictly speaking. The receipts, it will be seen, are more than a third greater than in the corresponding week of any previous year; yet there is much more grain in store at these markets than ever before at this season. The receipts are about 5 per cent. less than those of the previous week. Chicago received 46.8 per cent. of the whole this year; Milwaukee, 21.5; St. Louis, 11.0; Toledo, 7.8.

The shipments of these same Northwestern markets for the same week ending Dec. 14, have been:

1878.	1877.	1876.	1875.	1874.	1873.
1,453,904	1,172,719	1,380,152	742,315	636,161	1,304,247

All these shipments were by rail. For the week this year they are 45 per cent. greater than the rail shipments of the previous week. Rail shipments have been larger but twice since May.

For the same week ending Dec. 14 receipts at the seven Atlantic ports have been:

1878.	1877.	1876.	1875.	1874.	1873.
3,097,492	2,463,069	2,246,464	1,835,211	1,261,514	1,499,457

The receipts this year are thus one-fourth greater than those of last year, and in a still larger proportion greater than those of any previous year. A portion of the receipts at New York this week were by canal.

Of the total receipts of the week at Atlantic ports this year, 40.5 per cent. were at New York, 18.2 at Baltimore, 15.1 at Philadelphia, 13.2 at New Orleans, 11.8 at Boston, 1.1 at Portland, and 0.1 at Montreal. The percentage at New York is the smallest since April last, but about as large as its average percentage last winter, and much larger than its percentage for the corresponding week last year, when it was 33.6 against 40.5 this year. The percentage at New Orleans is unusually great, and the quantity has been exceeded but once since February, and but four times in the year. But New Orleans received an unusual proportion of the grain also in December last year.

Coal Movement.

Coal tonnages are reported as follows for the week ending Dec. 14:

	1878.	1877.	Decrease.	P. c.
Anthracite.....	336,743	480,807	144,064	30.0
Semi-bituminous.....	51,085	61,033	9,948	15.3
Bituminous.....	37,607	46,937	9,330	19.9

A general reduction in prices of anthracite coal is reported, in anticipation of the dissolution of the combination.

The coal tonnage of the Pennsylvania Railroad for the eleven months to Nov. 30 was:

	1878.	1877.
Anthracite.....	701,408	
Semi-bituminous.....	1,482,813	
Bituminous.....	1,403,682	
Coke.....	974,069	
Total.....	4,561,972	

The New York State canals for the season report coal tonnage as follows: 1878, 888,719; 1877, 1,272,881; decrease, 384,162 tons, or 30.2 per cent.

Petroleum Production.

Stowell's Petroleum Reporter gives the following statements for the Pennsylvania oil regions for November:

	1878.	1877.	Increase.	P. c.
Production, barrels.....	1,348,850	1,173,420	175,530	15.0
Shipments.....	1,281,410	1,205,634	75,776	6.3
Stock on hand.....	4,389,309	2,471,798	1,917,511	73.5
No. of producing wells.....	10,276	8,323	1,953	23.5

The chief increase this year came from the Northern or

Bradford Region, where 200 new wells were opened during the month.

Southwestern Association Rates.

Beginning Dec. 17, the following arbitraries are applied to business from Boston, New York, Philadelphia or Baltimore to St. Joseph, Atchison, Leavenworth or Kansas City, in cents per 100 lbs.:

From	1.	2.	3.	4.	Special.
Toledo.....	90	70	56	30	34
Chicago.....	82	65	45	30	25
St. Louis.....	65	50	32	10	14
Hannibal.....	61	47	29	10	11

These rates apply only on business originating at points from which the rates to Toledo, Chicago, St. Louis and Hannibal are the same as they are from New York, Philadelphia and Baltimore to St. Louis on Missouri River business.

New York State Canals.

The Canal Auditor of New York reports that the total tonnage of all the state canals in both directions for the season was: 1878, 5,170,822; 1877, 4,955,963; increase, 214,859 tons, or 4.3 per cent. The tonnage of some leading articles was as follows:

	1878.	1877.	Inc. or Dec.	P. c.
Wheat.....	444,443	444,443	I.	396,130 89.3
Corn.....	734,994	723,458	I.	11,536 1.6
Other grain.....	239,129	241,446	D.	2,317 1.0
Apples.....	24,036	9,804	I.	14,232 145.2
Pork, lard and tallow.....	3,097	11,107	D.	8,010 72.2
Sugar and molasses.....	42,976	12,157	I.	30,822 252.6
Salt.....	133,784	116,340	I.	17,444 15.0
Iron, pig, bar and rails.....	90,607	57,307	I.	3,300 5.8
Iron ore.....	210,066	250,573	D.	40,507 19.2
Coal.....	888,719	1,272,881	D.	384,162 30.2
Stone, lime and clay.....	207,675	160,283	I.	47,392 29.6

The great bulk of this traffic is on the Erie Canal, although the Champlain Canal carries a considerable tonnage, including a large part of the iron ore.

Freights to Milwaukee.

The usual winter meeting of the roads interested in freight carried to Milwaukee was held in that city, Dec. 23 and 24, at which the Chicago, Milwaukee & St. Paul, the Chicago & Northwestern, the West Wisconsin, and the Minneapolis and St. Louis were represented. Rates for the winter months were revised, and entire harmony prevailed.

THE SCRAP HEAP.

Railroad Manufactures.

E. L. Bushnell, of Poughkeepsie, N. Y., manufacturer of car-seat springs, has lately furnished the springs for 12 cars for the New York Central, and for several cars built by Billmeyer & Small to go to Brazil. He is furnishing all the seat-springs for the Wagner Sleeping Car Co.

The shops of the Pullman Palace Car Co., at Detroit, are to build four new sleeping cars for the Great Western Railway of England, and four others to run over the Erie.

The Grant Locomotive Works, at Paterson, N. J., are now turning out the Consolidation engines for the New York, Lake Erie & Western, and are altering some engines for the Metropolitan Elevated road.

The Roane Iron Co., at Chattanooga, Tenn., has an order for steel rails. The new blooming train is working well.

Wilson, Walker & Co., at Pittsburgh, have recently added to their works a new building, 250 by 100 ft., and have put in a new 3½-ton steam hammer of Morgan, Williams & Co.'s make. They are now employing 115 men and are full of work. Among other orders they have one for 3,000 draw-bars for the New York, Lake Erie & Western; also orders from the Atchison, Topeka & Santa Fe, the Chicago, Burlington & Quincy and other roads.

The Indianapolis Rolling Mill is running full double turn, re-rolling iron rails.

The Ohio Falls Iron Works, at New Albany, Ind., are running full single turn on merchant bar.

The Laclede Rolling Mill, at St. Louis, is running full double turn.

A bar rolling mill and guide mill have been added to the Baugh Steam Forge at Detroit, Mich.

The Springfield (Ill.) Iron Co. is running its rail mill full double turn and has started up its new mill for rolling bar iron and fish plates.

There are now 109 blast-furnaces in Ohio, of a total capacity of 894,800 tons of pig iron per year. Of these 53 are in blast. The first furnace was built at Yellow Creek, Mahoning County, in 1804, by David and James Heaton. The first furnace in the Muskingum Valley was built on Licking Creek, near Zanesville, in 1808, and the first in the famous Hanging Rock region in Ohio, in 1826, though one had been built in the Kentucky side of the river in 1818.

The Tuscarawas Coal & Iron Co., at Canal Dover, O., is rebuilding and enlarging its blast-furnace.

The Globe Rolling Mill, in Cincinnati, is running full single turn in all departments.

Notes.

"Christmas comes but once a year," said an Erie freight brakeman, as he stood by his brake on top of a box car going down the Oxford grade with the thermometer at zero and the wind blowing 45 miles an hour. "And I'm durned glad she don't come oftener, if she's coming in this shape every time," he added.

"How old are you, sissy?" said a conductor on a Boston road to a little girl who offered him half fare. "Nine at home, sir, but on the cars only six," was the ready reply.

Prices of Rails.

Steel rails at Philadelphia are reported a shade lower, owing to competition for certain orders regarded as especially desirable, and buyers are reported holding off in hopes of lower prices. The mills, however, are filling up with work, and no considerable or permanent reduction is probable. Quotations are \$41 to \$43 per ton, at mill, with sales of about 10,000 tons reported.

Iron rails are quoted at \$32.50 to \$35 per ton at mill according to section. The demand is good, but most buyers want time, and some large orders are offered, which can be placed if the security is good.

A large business is reported in steel rails for delivery next year. Sales of 20,000 tons are noted, mostly on private terms, but for 3,000 tons the prices are stated at \$42.25, \$42.50 and \$43 per ton at tide-water. Quotations at mill are nominally \$41 per ton.

An Opera Company Traveling in Style.

A contract was signed by Col. Mapleson and Samuel Carpenter, of the Pennsylvania Railroad yesterday afternoon, by the terms of which Her Majesty's Opera Company is to travel, during their proposed tour of the country, in a manner equal to that of the Marquis of Lorne and the Princess Louise on their recent journey from Halifax to Ottawa. A special train is to be furnished for the transportation of the entire company of 246 persons, for the trip of 4,000 miles,

at a cost of \$15,000. Of this train Col. Mapleson's private car is to be new, and is to be fitted up and furnished in the most luxurious manner. It will contain a drawing room, sleeping-rooms, smoking-room, bath-room, etc. Externally it will be as handsome as painters and gilders can make it, and its central panels on either side will bear the inscription: "Her Majesty's Opera Company." To it will be attached a kitchen and dining-car. Three of the sleeping-cars, which will be refitted for the trip, will be named Gerster, Rôse and Haul. The entire company will live on the train during their stay in various cities as well as when en route. A special car will be reserved for members of the press, several of whom, from New York, will undertake the entire trip. The company will leave New York on Saturday the 28th inst., for Boston, whence the route will be to Chicago, St. Louis, Cincinnati, Louisville, Baltimore, Philadelphia, Washington, Springfield, Mass.; New Haven and Hartford. —*New York Times*, Dec. 20.

Rolling Stock for a Brazilian Railroad.

Engineering gives the following account of the rolling stock ordered in England for the "Uniao Mineira" Railroad, a branch of the Dom Pedro II. Railroad, 30 miles, shortly to be completed in Brazil by Brazilian capital, and with the Brazilian Dr. Luiz Betim Paes Leme and the Englishman Mr. James Livesey as Engineers:

"The rolling stock and general equipment of the line are very complete, and might offer in many of its features an example to other foreign railways. The rails are of steel, 40 lbs. to the yard, with strong fish-plates secured with bolts having nuts that cannot work loose. The locomotives are constructed to work round severe curves and up heavy gradients. They have six coupled wheels, with a pony truck or bogie with a single pair of wheels in front, with a four-wheel tender to hold 1,000 gallons of water. They have been constructed to a specification embracing the highest class material. The principal dimensions are as follows: Cylinders, 13 in. in diameter by 30 in. stroke; coupled wheels, 3 ft. 6 in. in diameter; extreme centres, 10 ft. 4 in.; weight of engine and tender in working order, 31½ tons; working pressure of boiler, 150 lbs. per square inch. Each engine has been provided with one injector and a pump. The centre pair of wheels have no flanges, and are provided with a broad flat tire. The engines are calculated to work round curves of 3¼ chains radius, and to take a gross load of 80 tons up gradients of 1 in 35, independent of their own weight. The carriages are of the American saloon type, but instead of the bogie truck Cleminson's six-wheel radial wheel-base has been adopted. Teak is the timber chiefly used in their construction, and the first-class carriages are provided with arm-chairs which revolve on a centre-pin similar to those in the Pullman cars. By this arrangement more space is given, and the passengers are not compelled to sit with their backs to the windows, as is usually the case in narrow-gauge stock. The brake vans, in addition to the guard's compartment, are provided with a lavatory and other conveniences, accessible from the carriages during the journey. The wagon stock consists partly of short, four-wheel, covered vehicles, and long wagons with the Cleminson's wheel-base. Each wagon has a platform at one end, provided with a powerful screw brake. The upper and part of the under frame is of teak, and all the material is of the best description. In addition to the hand-brake already referred to, the whole of the stock, including the locomotives, is provided with a powerful continuous brake, which can be worked either from the engine or from the guard's van. From this it will be seen that advantage has been taken of every modern improvement."

OLD AND NEW ROADS.

Annapolis & Elkridge.—Argument has been heard in the Maryland Court of Appeals on the question of the right of the trustees to sell the road under the mortgage of 1872. The stockholders contest the validity of the mortgage. The lower court decided that the trustees had a right to sell the road, but enjoined a proposed sale in Anne Arundel County. The Court of Appeals reserved its decision.

Baltimore & Delta.—The contract for the grading, masonry and trestle work of this road has been awarded to Haugh, Grant & Co., of Baltimore, for \$133,000, the work to be done within the year 1879. The road is to be of 3 feet gauge and about 45 miles long, from Baltimore a little east of north to Delta, just over the Maryland line in Pennsylvania.

Chicago & Lake Huron.—The latest report concerning this road is that Mr. Vanderbilt has secured full control of the Port Huron & Lake Michigan bonds, and that as soon as the road can be sold the line from Lansing to Port Huron will be reorganized separately, and made a branch of the Lake Shore. It is also reported that the old Peninsular road, from Lansing to Valparaiso, will be turned over by the bondholders to the Pennsylvania Company. All of which may be, and may not be, true.

Chicago & Southwestern.—In the suit of Van Weel against Winston and others the United States Circuit Court in Chicago has made a decision sustaining a demurrer filed by defendants. The suit was brought to recover certain money alleged to have been received by defendants through contracts for the construction of the road, while acting in an official capacity for the company. The Court held plaintiff's bill defective because the company had not been made a party to the suit; because the plaintiff, a single bondholder, could not seek the remedies of mortgagee in the absence of the trustees, who represent all the bondholders; because a decree could not be entered in the absence of some of the bondholders, unless they were represented by the trustees, and finally, because the bill joined together a stockholder and a bondholder, whose interests were necessarily opposed in this case. While sustaining the demurrer, however, the Court granted leave to file an amended bill of complaint.

Chicago & Springfield.—This company has been organized to build a railroad from Springfield, Ill., to East St. Louis. Its capital stock is to be \$1,000,000, and the incorporators are George N. Black, John A. Vincent, Limri Enos, O. F. Stebbins, John W. Bunn, A. Orendorff, A. L. Ide, F. W. Tracy, George Pasfield. They are all residents of Springfield and vicinity.

Chicago, Rock Island & Pacific.—At a meeting of the board in New York this week the usual quarterly dividend was declared, and it was ordered that the following be indorsed or stamped on all stock certificates after Jan. 1.

"Also the bearer hereof is entitled to — shares of the capital stock of the Iowa Southern & Missouri Northern Railroad Company, equal in par value to 25 per cent. of the par value of the capital stock of this company, which are held in trust by the Treasurer hereof, and will continue to be so held during the lease of the Iowa Southern & Missouri Northern Railroad to this company, on the termination of which lease said shares shall revert to this company. The dividends which shall be paid, as provided by said lease, upon said shares, to the Treasurer of this company, will be distributed by him in pro rata proportion to the owners of

the capital stock of this company at the same time as their holdings shall appear upon its books. A transfer of this certificate will operate to transfer the holder's interest in said shares, but no stockholder has any separable interest therein, or shall be entitled to any separate certificate thereof."

Clarksburg, Weston & Glenville.—This company was formed to complete the Weston & West Fork road from Weston, W. Va., northward to the Baltimore & Ohio, at Clarksburg, about 25 miles. It has now secured a sufficient amount of subscriptions and has let contracts for all the unfinished grading, the last of which is to be done in February next.

Columbus, Scioto & Hocking Valley.—This company has been organized to build a railroad from Amanda, O., on the Scioto Valley road, eastward to Haydenville on the Columbus & Hocking Valley, about 40 miles.

European & North American.—At a meeting of bondholders in Bangor, Me., last week, a committee previously appointed reported that the construction of the projected line from a point on this road northward into the Aroostook would be of great benefit to the road. Another committee was appointed to secure subscriptions from bondholders to the stock of the new road.

Georgetown.—Track is reported all laid on this road, which is about 20 miles long, from Georgetown, Tex., east by south to the International & Great Northern at Round Rock.

Gulf, Colorado & Santa Fe.—This company has accepted a proposition from a number of residents of Galveston, who offer to loan it \$250,000 to complete the road to Richmond. The loan is to be for 90 days only, to be secured by trust deed, and to bear interest at the rate of 12 per cent. a year. It is expected that this will clear the company from its difficulties and enable it to carry out the contract for the placing of its bonds in England.

Hobart & South Branch.—Work has been begun on this road, which is to run from Hobart, Mich., to the South Branch of the Manistee, and is to be used to carry lumber to the river.

Illinois & St. Louis Bridge.—The bondholders who last week bought this bridge at foreclosure sale have organized the St. Louis Bridge Company, in accordance with the plan previously adopted. The new company will issue \$7,000,000 stock, to be exchanged for the old second and third mortgage bonds and some other claims, and \$5,000,000 new bonds, to be exchanged for the old first mortgage bonds and Receiver's debts.

Indianapolis & Springfield.—A contract is said to have been let to John Byrne, to complete this road from Montezuma, Ind., to Indianapolis, 67 miles, work to begin Jan. 1, and the western half of the road to be finished by Dec. 1, 1879.

Indianapolis, Bloomington & Western.—In the United States Circuit Court in Chicago, Dec. 23, a decision was given confirming the sale of this road to the Purchasing Committee of bondholders, the objections made by the Turner party and others being set aside.

Lake Shore & Michigan Southern.—At a meeting of the board in New York, Dec. 20, the following statement was presented for the year 1878, December estimated, which we have compared with the full figures from the report of 1877:

	1878.	1877.	Inc. or Dec.	P. c.
Gross earnings.....	\$14,002,094	\$13,505,159	L. \$497,535	3.7
Expenses and taxes.....	8,484,083	8,063,906	D. 420,177	5.3
Net earnings.....	\$5,517,711	\$5,441,193	L. \$76,518	21.5
Per cent. of expenses.....	60.61	60.37	D. 5.78	8.7
The disposition of the net earnings for this year has been as follows:				
Net earnings.....	\$5,517,711			
Interest, rentals, etc.....	2,750,000			
Surplus (5.50 per cent. on the stock).....	\$2,767,711			
Sinking fund.....	\$250,000			
Pittsburgh & Lake Erie stock.....	200,000			
Construction.....	200,544			
Ashtabula accident.....	76,019			
August dividend, 1 per cent.....	404,005			
			1,321,228	
Balance.....	\$1,546,483			

There is no floating debt; the funded debt has been reduced \$250,000 by sinking fund, and now stands at \$95,000,000. The expenses include cost of 10,000 tons of steel rails.

On this showing the board decided to declare a dividend of 3 per cent., which will require \$1,483,905, leaving a balance of \$63,488. This makes 4 per cent. paid from the earnings of the year.

Louisville, New Albany & St. Louis.—This company, organized by the bondholders who bought the Indiana section of the old road of the same name, and the St. Louis & Mt. Carmel Company, organized by the bondholders who bought the Illinois section, have filed articles of consolidation. The capital stock is \$3,000,000, and the consolidated company is known as the Louisville, New Albany & St. Louis Railway Company. The road is completed from Princeton, Ind., to Albion, Ill., 28 miles, and there is some graded road-bed in Indiana.

Massachusetts Central.—A contract is reported let for the completion of a section of 20 miles of this road, from Waltham, Mass., to Hudson, the work to be finished by July 4 next. The work is to begin at the Fitchburg Railroad crossing in Weston.

Miami Valley.—John B. Benedict, contractor for the building of this road, has begun suit to enforce a mechanic's lien on the property of the company, also to foreclose a mortgage and to recover damages for breach of contract. The road was to be a narrow-gauge line from Cincinnati to Xenia, O., 56 miles, and Mr. Benedict claims to have finished the grading of 36 miles and partially graded five miles more. He claims that the company failed to pay him money or bonds as agreed, and that bonds were pledged for loans, injuring the value of those which he did receive.

Michigan Central.—At a meeting of the directors in New York, Dec. 20, the following statement was presented, December earnings being estimated, for the half-year ending Dec. 31:

Gross earnings.....	\$3,780,000
Working expenses (55.49 per cent.).....	2,097,500
Net earnings.....	\$1,682,500
Interest and rentals.....	822,960
Surplus (4.58 per cent. on stock).....	\$859,540
Floating debt paid off.....	451,239
Balance.....	\$408,301

From this balance a dividend of 2 per cent. was declared, which will require \$374,764, leaving a surplus of \$33,537.

This is the first dividend since 1873, except one of 2 per cent. paid last June.

Minneapolis Narrow-Gauge Roads.—At a meeting held in Minneapolis, Minn., Dec. 17, a report presented by a committee was adopted recommending the organization of a company to build narrow-gauge lines from that city as follows:

First—A line connecting Minneapolis with and extending into the region of country lying between the Hastings & Dakota and the First Division of the St. Paul & Pacific (main line) railroads, and thence southerly and westerly, toward the west line of the state of Minnesota, with such branches as may be designated hereafter by the boards of directors, to be known as the southern division of said railroad.

Second—A line connecting Minneapolis with and extending into the region of country lying between the main line of the First Division of the St. Paul & Pacific Railroad Company and the St. Vincent Extension of the St. Paul & Pacific Railroad, and thence westerly and northwesterly to the western boundary of the state, with such branches as may hereafter be designated by the board of directors, to be known as the central division of said railroads.

Third—A line connecting Minneapolis with and extending beyond the region of country lying northerly of the St. Vincent Extension of the St. Paul & Pacific Railroad, and thence northwesterly toward the northern boundary of the state, with such branches as may hereafter be designated by the board of directors, to be known as the northern division of said railroad.

It was also resolved that the city ought to extend aid to the proposed company by levying a tax for that purpose.

Morgan's Louisiana & Texas.—Work on the proposed extension of this road to the Sabine River, to connect with the Texas & New Orleans, has been suspended on account of the yellow-fever troubles, but has lately been resumed. Engineers have been examining the Sabine to find the best point for a crossing.

New York & Oswego Midland.—The holders of Receivers' certificates and first-mortgage bonds having substantially agreed upon the plan of reorganization, a sub-committee from the joint committees representing both interests is now at work perfecting the details of the plan and the arrangements for carrying it out.

New York Elevated.—This company ran its first train through from the Battery to One-hundred and Twenty-ninth street, Harlem, Dec. 24, a distance of about 8¼ miles, and two miles further than trains have run hitherto.

New York, Lake Erie & Western.—The third rail is now all laid on the main track, completing the line of standard gauge from Buffalo to Jersey City. There is still a good deal of work to be done in the yards, though nearly all the station sidings have the third rail down.

Northern Pacific.—This company has received 48 bids for the building of the extension of 205 miles from the Missouri to the Yellowstone. The examination and comparison of these require some time, but it is expected that the contract will be awarded this week.

Paris & Danville.—After hearing argument on the motion, the United States Circuit Court at Springfield, Ill., on Dec. 18, ordered that the recent sale of this road be set aside. Further disposition of the case was postponed until Dec. 24, when argument will be heard on a motion to remand the case to the State courts.

Paulding and Cecil.—This road has been leased for ten years to N. G. Olds & Son, of Fort Wayne, Ind., and John Evans, owner of the Paulding furnace property. It is completed from Paulding, O., north by east to the Wabash and Erie Canal, five miles, and is graded two miles further to the Wabash road at Cecil. The lessees are to lay the track on the two miles of unfinished road.

Pennsylvania.—This company's November statement shows for all lines east of Pittsburgh and Erie, as compared with November, 1877, a decrease of \$75,834 in net earnings. For the eleven months ending Nov. 30, as compared with the same period in 1877, there was a gain in net earnings of \$1,346,732. For the same period all lines west of Pittsburgh and Erie show a surplus over all liabilities of \$47,800, being a gain of \$235,000 over 1877.

Philadelphia & Atlantic City.—Philadelphia papers report that the owners of this road have decided, if the money can be raised, to change it to standard gauge, in the hope of making it more successful. It is now of 3 feet 6 inches gauge, and is in the hands of a receiver.

Philadelphia & Reading.—A dispatch from Philadelphia, Dec. 19, to the *Pottsville Miners' Journal* says: "The Philadelphia & Reading Railroad Company will immediately pay its railroad hands all their back wages in certificates bearing interest payable half in April, half in May. They will be receivable at once for all debts due the company or in payment of coal bills. An interest account will be made up for past deferred payments and will be paid in cash to the men in January."

The wages of the employees are, we believe, now about three months in arrears.

This company's statement the fiscal year ending Nov. 30 shows the gross receipts of the Railroad Company for the year to be \$13,231,493; Coal & Iron Company, \$8,192,077; total, both companies, \$21,423,571. This shows a decrease for the year on the railroad business (including canals and steam colliers) of 5 per cent.; a decrease in the Coal & Iron Company's receipts of 18 per cent., and a decrease on the total business of 10.5 per cent. Coal mined from the company's lands was: 1878, 3,827,789 tons; 1877, 5,183,637 tons; decrease, 1,355,848 tons, or 26.2 per cent.

Pittsburgh, Cincinnati & St. Louis.—This company makes the following statement for the eleven months ending Nov. 30:

Gross earnings.....	\$2,905,332
Expenses (64.60 per cent.).....	1,876,660
Net earnings.....	\$1,028,666
Interest on bonds, eleven months.....	613,974
Surplus.....	\$414,692

Gross earnings include interest received on equipment hired; expenses include interest on car-trust cars and rental of Monongahela Extension in Pittsburgh.

St. Joseph, Kansas & Denver.—This company has filed articles of incorporation in Kansas with the following corporators: C. F. Schuster, A. M. Saxton, Louis Hax, Hanson Gregg, R. V. Smith, W. D. Jenkins, C. Augerine Sanli, M. Nare, L. D. Tutthill, Winslow Judson, J. F. Van Noll, A. Gower, W. A. P. McDonald, Joseph Hanson, John Doniphan, C. A. Perry.

St. Louis & San Francisco.—This company is said to be making arrangements for the proposed new line into St. Louis. The line will start from a point a little south of the junction with the Missouri Pacific at Pacific, Mo., and will run on the South Side of the Meramec River about half the

way; it will be, it is said, some three miles shorter than the Missouri Pacific line, which is 37 miles long.

St. Louis, Kansas City & Northern.—A dispatch from St. Louis, Dec. 23, says: "A meeting was held at the Lindell Hotel to-night to consider a proposition to aid in the construction of a branch or the extension of the St. Louis, Kansas City & Northern Railway, from Pattonsburg, Mo., to Council Bluffs or Omaha, and was numerously attended by the wealthiest and most public-spirited citizens. The proposition was most favorably regarded, and several committees were appointed to solicit subscriptions. From the interest manifested in the enterprise there is no doubt that the sum asked for by the railway company will be promptly raised."

St. Louis, Keokuk & Northwestern.—The gross earnings of this road for the fiscal years ending June 30 have been as follows: 1877-78, \$214,350.77; 1876-77, \$181,621.25; 1875-76, \$85,494.90. This is on the 81 miles from Keokuk, Ia., to Louisiana, Mo., the extension of nine miles from Louisiana to Clarksburg, built last year, not being included. It is said that the company will soon begin work on its line to St. Louis, which will require the building of 43 miles of road from Clarksburg to Dardenne on the St. Louis, Kansas City & Northern.

St. Louis, Keosauqua & St. Paul.—This road is only four miles long, from Keosauqua, Ia., to the Keokuk & Des Moines at Summit, but it has been the subject of a long suit, which the Iowa Supreme Court has just decided. The contest was between the holders of mechanics' liens for labor and material furnished, and the parties from whom the iron and equipment were bought, who hold mortgages upon the road. The Supreme Court has now decided that the mechanics' liens have the preference and must be first satisfied. Their amount is about \$12,000, and the road will probably soon be sold to pay them, the surplus, if any, going toward the mortgages. The road has not been worked for over three years.

St. Paul & Pacific.—The St. Paul Pioneer-Press of Dec. 19 says: "Messrs. Stephen, Smith, Kittson and Hill applied to the United States Circuit Court for the issue of debentures for the sum of about \$1,000,000, the cost of completing the extension lines of the St. Paul & Pacific Railroad from Melrose to Alexandria and to St. Vincent. These extension lines were contracted for and built by the Receiver under the order of the Court of May 31, 1878."

"Under the authority of this order the extension lines were completed by Nov. 11 of the present year, at the alleged cost of about \$1,000,000. The work of constructing the roads under the order was not commenced until about July, and the work—over 128 miles of road—was completed and in running order by the first day of this month. The Governor has issued his certificate that the road has been completed in full compliance with the laws of Congress and the Legislature of the state, and thus this land grant has been saved, and the state secured the completion of this great and important line of railway."

"The issue of debentures was consented to by all the parties in interest except the First Division Company, which claimed, among other things that there was not sufficient proof of the exact and necessary cost of the work to justify the court in the issue of debentures. The court ordered the issue of debentures to the amount of \$800,000, with leave to the parties who had furnished the money to apply for the issue of the balance alleged to be due, when the exact cost of the work was known."

"After the arguments had been heard yesterday, Judge Dillon, in granting the orders for the debentures, gave a history of the proceedings in suit, and referred to the necessity of the construction of the lines of the road. Judge Dillon spoke of the order of May 31, 1878, above alluded to, under which the Receiver had been given authority to construct the unfinished portions with money received for that purpose from the bondholders. The order, he said, had been complied with, the road had been constructed with the money of the bondholders, and the parties were entitled to have debentures in the sum of \$800,000. Judge Dillon said that it had been shown that at least that amount had been expended, and when the actual cost of the road was shown the petitioners would have the right to apply for further debentures to cover the total cost. He desired that a full statement should be made of the amount of money which had been furnished. He did not propose to issue for a larger amount than had been furnished, together with a reasonable profit. Had the contract been submitted to the Court, it would have been approved, because it was the most successful piece of judicial railroad construction that, under the circumstances, he had any knowledge of. This action is entirely satisfactory to the parties more immediately interested, and when the construction accounts of the Receiver are made out, which will be perhaps in the course of ten days, the balance of the debentures will be applied for and issued."

Terre Haute & Worthington.—At a recent meeting of the stockholders in Worthington, Ind., the direct route to Terre Haute through Howesville (in place of the more circuitous one formerly projected by way of Clay City) was adopted as occupying a much richer territory and avoiding the heavy grades incident to the line north of El River. The right of way having been already secured, contracts which had been provisionally made for grading and ties were then ratified.

The Storm.—Last week the first snow storm at the West was reported, and this week it has reached the Lake Region, being especially violent along the southern shore of Lake Erie. The Lake Shore road is reported blocked with snow three feet deep west of Buffalo, and the New York Central also suffered long detentions from snow on the western end of its line. Mails were delayed, several postal cars being snow-bound west of Rochester. The storm was accompanied by severe cold, and ice is fast forming on the lakes and on the Erie Canal and Hudson River.

Troy & Greenfield.—At the annual meeting of the old company in Boston, Dec. 20, a resolution was passed confirming the contracts heretofore made and instructing the board to take steps for the redemption of the road, now held by the State.

The company, we believe, has the right to redeem its property, which includes the Hoosac Tunnel, on payment of the money expended by the State since it has been in possession, that is, nearly the whole cost of the road and tunnel. This will require a good many millions of dollars and probably will not be done at once.

Vermont Central.—The St. Albans (Vt.) Messenger of Dec. 20 says: "The question of the priority of liens of the different classes of securities in the Vermont Central and Vermont & Canada railroads has been the most difficult and perplexing one of all that have been involved in the various lawsuits between the owners during the last six years or more. It has run through and affected all the other questions, and yet it has never been decided. The effort of the Central Vermont two years ago to have it decided, or rather to cut the Gordian knot by having a forced sale of the roads with power to purchase the same with their own bonds, brought it no nearer solution than a denial of their petition, on the ground that they had no such priority of interest (if

any) as entitled to a sale of the body of the property to satisfy it. Two or more suits by security-holders not in harmony with the managers are pending in the state and federal courts, which, among other matters, look to a determination of this question. But it makes a difference, sometimes, in what interest a suit is brought or in what spirit it is carried on. Mr. James R. Langdon, of Montpelier, who has large interests in various classes of the securities, and is a stockholder and director of the company now in control, brought a bill in chancery returnable to the last April term of the Franklin County Court, the main if not the sole purpose of which is to have the priorities decided. He made several others who are friendly to the present management co-plaintiffs, and joined the Vermont & Canada and some of the bondholders as defendants. During the last week the direct testimony of Governor Smith has been taken, at his office, before General James S. Peck of Montpelier, as master in chancery. Mr. Effic and ex-Governor Peck appeared as counsel for the orator, and F. A. Brooks, Esq., of Boston, for the Vermont & Canada. By agreement, the testimony was taken in short-hand, by Henry Oviatt of Montpelier, and manifested in full, by use of his type-writer, each night. The hearing has been adjourned for the cross-examination of Governor Smith and the taking of other testimony. It is said to be the intention of the parties to hasten the preparations as fast as possible, so as to get the case disposed of by the Chancellor and entered in Supreme Court at the coming January term, with a view to its argument and final determination at the general term next November."

Wabash.—Notice is given that at the annual meeting, to be held Feb. 19, stockholders will be called upon to vote upon the question of authorizing the execution of a mortgage upon the Hannibal & Naples road to secure an issue of \$500,000 to be made in payment for that road.

Western Maryland.—The Board of Finance Commissioners of the city of Baltimore has finally decided to reject the proposal of the second-preferred bondholders to sell their bonds to the city at 66 2/3 per cent. of their face value, payable in 5 per cent. city stock. The reason given is that it is inexpedient to make the purchase, in view of the strong probability that the road will soon be able to resume payment of interest on the bonds. The city is the chief owner of the road, and was urged to make the purchase to protect its interest. There are \$600,000 of the second-preferred bonds, on which \$202,905 interest is overdue. It is said that the bondholders will proceed to foreclose their mortgage.

Winston & Mooresville.—The location of this road has been completed from Mooresville in Davie County, N. C., south by west to Third Creek on the Western North Carolina road, and the stockholders at a recent meeting voted to let contracts for the grading of this section, which is about 17 miles long.

ANNUAL REPORTS.

New York Central & Hudson River.

The report is to the New York State Engineer and Surveyor for the year ending Sept 30, 1878.

The property is precisely the same as that of the previous year, so far as length of road is concerned. It is reported as follows:

Characteristics of Road:	1877-78.	1876-77.
Lines owned, miles—		
Length of road.....	740.17	740.17
Second track.....	465.30	465.30
Third track.....	255.12	254.07
Fourth track.....	225.27	225.27
Turnouts.....	444.09	432.14
Lines leased, miles—		
Length of road.....	260.03	260.03
Second track.....	49.95	49.95
Third track.....	3.85	3.85
Fourth track.....	37.35	37.35
Turnouts.....		
Total miles of track.....	2,484.99	2,471.99
Weight of rail per yard.....	(lbs.) 65	(lbs.) 65
Number of engine-houses and shops.....	61	61
Engines.....	587	602
Dummies.....	8	8
First-class passenger cars.....	381	416
Second-class and emigrant cars.....	89	80
Baggage, mail and express cars.....	213	211
Freight cars.....	15,964	15,661

The changes in track during the year are an increase of 13 miles in track, of which 1.05 miles were in third track and the rest in turnouts; the changes in equipment during the year are an increase of 9 second-class passenger cars, 2 baggage, mail or express cars, and 903 freight cars, and a decrease of 15 locomotives (sold to the Canada Southern) and 35 first-class passenger cars. Corresponding changes are made in the

Cost of Road and Equipment:	1877-78.	1876-77.
Grading and masonry.....	\$19,543,814.40	\$19,501,106.83
Bridges.....	2,528,026.21	2,528,026.21
Superstructure, including iron and steel.....	29,216,925.08	29,119,425.68
Passenger and freight stations, buildings, etc.....	12,196,709.89	11,326,328.49
Land, land damages and fences.....	12,469,817.91	11,968,899.31
Locomotives, fixtures and snow plows.....	5,868,486.79	5,988,903.51
Passenger and baggage cars.....	1,028,292.79	1,764,143.82
Freight and other cars.....	10,233,626.93	10,115,801.93
Engineering and agencies.....	2,969,473.27	2,660,473.27
Horses.....	16,985.00	16,985.00
Harness and stable equipment.....	4,293.10	
Rochester & Lake Ontario Railroad.....	150,000.00	150,000.00
Buffalo & Niagara Falls Railroad.....	658,921.56	658,921.56
Lewiston Railroad.....	400,000.00	400,000.00
Saratoga & Hudson River Railroad.....	2,000,000.00	2,000,000.00

Totals.....\$99,894,095.43 \$99,142,408.71

The items in the above which show any changes are:

Increase:	
Grading and masonry.....	\$42,707.57
Superstructure.....	97,500.00
Stations and buildings.....	270,381.40
Land, land damages and fences.....	500,918.60
Freight and other cars.....	117,725.00
	\$1,029,232.57

Decrease:	
Locomotives, fixtures and snow-plows.....	\$120,416.72
Passenger and baggage cars.....	135,851.03
Horses.....	16,985.00
Harness, etc.....	4,293.10
	277,545.85

Balance, increase.....\$751,686.72

This property is represented by the following:

Stock and Debts:	1877-78.	1876-77.
Capital stock.....	\$89,428,300.00	\$89,428,300.00
Funded debt.....	39,801,233.33	39,801,233.33
Bonds and mortgages given or assumed by the company upon purchase of real estate.....	632,050.58	534,212.22
Average rate per annum of interest on funded debt.....	6 1/4 per cent.	6 1/4 per cent.

The only change here is an increase of \$97,898.34 in the debt assumed by the company upon purchase of real estate. The increase in the cost of the property was thus \$653,848.33 more than the increase in stock and debts.

The work of the year is reported as follows:

Train Mileage:	1877-78.	1876-77.	Increase.	P. c.
Passenger.....	4,888,562	4,594,540	294,022	6.4
Freight.....	11,109,479	9,774,038	1,335,441	13.7
Switching and working.....	4,401,501	4,154,569	246,932	6.0

Total.....20,399,542 18,523,147 1,876,395 10.1

With this train service the following traffic was carried:

Traffic:	1877-78.	1876-77.	Inc. or Dec.	P. c.
No. passengers.....	8,927,585	8,919,438	I.	8.127 0.1
No. carried one mile.....	300,302,140	316,847,325	D.	16,545,185 5.2
No. tons freight carried.....	480,122	0,351,356	I.	1,824,179 28.7
Tons carried one mile.....	41,600,236	1,619,948,685	I.	404,406,683 28.7

* Company's freight. † Other freight.

Nature of Freight:				
Products of the forest, tons.....	415,565	414,869	I.	686 ..
Of animals.....	1,024,071	855,439	I.	168,632 20.0
Of vegetable food.....	2,628,190	1,787,112	I.	841,078 47.0
Of agricultural products.....	597,388	386,146	I.	211,242 55.0
Manufactures.....	812,882	750,389	I.	61,493 ..
Merchandise.....	542,566	575,801	D.	32,235 ..
Coal.....	872,436	772,916	I.	99,520 13
Other articles.....	802,315	808,684	D.	6,369 ..

Totals.....7,695,413 6,351,356 I. 1,344,057 21.0

"Vegetable food" formed 34 per cent. of the whole last year, against 28 per cent. the year before. Agricultural products of all kinds made up 55 per cent. of the total last year against 48 per cent. the previous year. The increase in coal in a year when the production and consumption of that article generally decreased is noticeable. The total coal traffic of this road, however, is still small—about one-fourth of the Erie's.

The earnings and expenses of the road were:

Earnings:	1877-78.	1876-77.	Inc. or Dec.	P. c.
From—				
Passengers.....	\$6,022,955.65	\$6,576,816.33	D.	\$553,860.68 8.4
Freight.....	19,045,829.71	16,424,316.67	I.	2,621,513.04 16.0
Car service.....	888,462.46	1,057,113.74	D.	168,651.28 18.0
Rents.....	1,244,358.83	1,055,855.72	I.	188,503.11 18.0
Mail service.....	441,143.43	326,420.52	I.	114,722.91 35.1
Telegraph.....	6,535.77	4,417.89	I.	2,117.88 48.0
Interest.....	384,002.42	355,281.24	I.	28,721.18 8.1
Use of road.....	229,721.10	236,008.31	D.	6,287.21 2.7
Miscellaneous.....	947,455.81	542,855.48	I.	404,600.33 19.3

Totals.....\$28,910,555.18 \$26,579,085.90 I. \$2,331,469.28 8.8

Working expenses:

	1877-78.	1876-77.	Inc. or Dec.	P. c.
Maintaining road-bed, etc.....	\$2,872,805.25	\$2,456,115.40	I.	\$416,689.85 17.4
Repairs of machinery.....	2,937,530.53	2,864,784.00	I.	72,746.53 2.5
Operating expenses.....	10,325,591.55	9,925,261.57	I.	400,329.98 7.3

Totals.....\$16,135,927.33 \$14,946,161.87 I. \$1,189,765.46 8.0

Allotted to passenger transportation.....\$3,833,444.12 \$3,616,612.22 I. \$216,831.90 6.0

Allotted to freight transportation.....12,302,533.15 11,329,549.65 I. 972,983.50 8.0

Totals.....\$16,135,927.33 \$14,946,161.87 I. \$1,189,765.46 8.0

Net earnings.....\$12,774,577.85 \$11,632,924.03 I. \$1,141,653.82 9.8

Gross earnings and working expenses are the largest since 1875, and net earnings are the largest since 1874.

The expenses in detail are as follows for 1877-78, the difference in comparison with the previous year, and the percentage of that difference being added, but the amount for 1876-77 being omitted for lack of room:

Expenses of maintaining road:	1877-78.	Inc. or Dec.	P. c.
Repairs of road-bed (excepting cost of rails).....	\$1,355,232.30	I.	\$189,239.29 19.7
Cost of rails used in repairs.....	322,405.57	I.	103,267.10 45.1
Repairs of buildings.....	227,716.49	I.	4,331.21 2.0
Repairs of fences and gates.....	42,094.63	I.	15,354.04 55.6
Taxes assessed on real estate.....	924,506.26	I.	74,407.61 8.8

Totals.....\$2,872,855.25 I. \$416,740.85 17.4

Expenses of repairs of machinery:

	1877-78.	Inc. or Dec.	P. c.
Repairs of engines and tenders.....	\$959,544.97	I.	\$80,536.79 9.1
Repairs of passenger and baggage cars.....	487,500.19	I.	61,826.33 14.5
Repairs of freight cars.....	1,256,323.94	D.	25,534.68 2.0
Repairs of tools and machinery in shops.....	74,560.28	D.	3,837.33 4.9
Incidental expenses, including fuel, etc., at shops.....	159,001.15	D.	40,245.48 20.1

Totals.....\$2,937,530.53 I. \$72,746.53 2.5

Expenses of operating road:

	1877-78.	Inc. or Dec.	P. c.
General superintendence.....	\$137,024.58	D.	\$50,066.77 30.1
Agents and clerks.....	1,027,032.16	I.	423,344.34 71.3
Conductors, baggage-men and brakemen.....	794,956.96	I.	14,802.38 19.7
Engine-men and firemen.....	1,097,758.07	D.	7,063.03 6.4
Porters, watchmen, flagmen and switchmen.....	583,557.23	D.	21,588.38 3.6
Wood and water station attendance.....	49,927.14	D.	6,748.73 11.9

Labor—loading and unloading freight.....1,110,889.39 I. 21,948.26 2.0

Fuel—cost and labor preparing.....1,906,463.51 I. 123,198.86 6.6

Oil and waste.....304,119.22 D. 59,824.79 16.1

Loss and damage on goods and baggage.....67,396.72 I. 15,962.44 31.1

Damages for injuries to persons.....50,516.02 D. 41,565.31 45.2

Damages to property (including cattle killed on track).....24,753.10 I. 16,568.64 202.4

Hauling freight cars in New York City.....48,516.55 D. 11,690.26 19.4

Lights and lanterns.....772,708.47 I. 202,844.85 35.8

Rents.....304,865.34 I. 22,736.68 6.9

Freight-car service.....1,673,719.99 I. 48,636.65 3.0

Office expenses, stationery, etc.....61,245.99 D. 6,842.30 10.0

Contingencies.....190,470.51 I. 14,657.65 8.4

Totals.....\$10,325,591.55 I. \$700,329.98 7.3

The disposition of the earnings was as follows:

	1877-78.	1876-77.	Inc. or Dec.
For transportation expenses.....	\$16,135,927.33	\$14,946,161.87	I. \$1,189,765.46
For interest.....	2,786,576.35	2,744,004.59	I. 42,571.76
For dividends.....	7,136,528.00	7,140,639.48	D. 1,181.48
For rent of other roads.....	1,930,555.70	1,945,572.19	D. 5,016.49

Totals.....\$28,011,637.38 \$26,776,398.13 I. \$1,235,239.25

Deficit.....\$197,312.23

